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THE DOMINION OF AUSTRALIA.

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THE

DOMINION OF AUSTRALIA

AN

ACCOUNT OF ITS FOUNDATIONS.

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By W. H. L. RANKEN.

LONDON:
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ERRATA.

Page 68,	last line,	*for*	Stuart	*read*	Sturt.
„ 103,	line 5,	„	cattle in	„	cattle on.
„ 104,	„ 6,	„	mother	„	mothers.
„ 105,	„ 6-7,	„	put in	„	put on.
„ 126,	„ 11,	„	not parallel, but	*read*	but parallel, not.
„ 286,	„ 12,	„	of the capital	„	of capital.
„ 299,	„ 5,	„	with any sympathy	„	without any sympathy.
„ 340,	„ 16,	„	colonial labour	„	coloured labour.
„ 349,	„ 13,	„	assistance	„	resistance.

P.

THE

DOMINION OF AUSTRALIA.

CHAPTER I.

Effects of the outlines and position of a tract of land upon its climate —Size and uniformity of Australia—The one great plain—two-fifths of this plain without a system of drainage—Watersheds—Thomson river—Darling river—Margins and watersheds of this plain—its exposure coastwise.

In received descriptions of Australia, the impressions of the narrator and of the reader have been generally acquired from the most accessible portions of the country. The appearance of the settlements near Sydney or Melbourne are held to be typical of all the land; and their peculiarities being unaccountable on the spot, the country is considered strange and even anomalous. We are told of the monotonous landscape, the invariable forest of scantily-clad evergreens, of their identity in form, appearance, and often of species, throughout 20 degrees of latitude; we are told of trees which shed their bark and not their leaves, of gigantic evergreens which have little or no shade, of rivers without water, of cloudless skies; we are told that all is monotonous, and yet quite contrary to our former experiences of nature. But there is seldom any reason assigned, very rarely any cause traced, for

those apparent divergences of nature. Yet there is no strange feature in the Australian landscape, no anomaly nor vagary. There is no possibility of the skies being frequently and regularly rainy, of the forest being luxuriant and annually rejuvenated; for the laws of the seasons are not imposed by each spot for itself. Victoria, nor even a much larger area, can find the forces of floods or droughts within its own frontiers, but the larger areas of ocean or land impose laws upon neighbouring regions. The settlements which we hear of, their droughts and floods, and the many characteristics which follow therefrom, have the impress of a removed but overwhelming power. That power is the vast interior, its extent and climate.

Large as an ocean, the interior tends to reduce neighbouring lands and seasons to its own conditions; to impose a drought when it is dry, or protract wet seasons when it is flooded; to raise the mean temperature, and to harden the face of nature towards man. So the kindly ocean, here as elsewhere, mollifies the rigour of all seasons, and tends to reduce to gentle equalities the harsh extremes of inland forces. The Australian settlements, as we are familiar with them, are placed between these two powers, the Pacific Ocean and an inland desert. From these powers they derive all their peculiarities of landscape and life, with many of their distinctive features of civilisation. For the extent of the interior is immense compared to the margin of country between it and the ocean, immense and uniform. Were this inland region not so very uniform; were it partly desert and partly well-watered, mountainous in some places, and of plains only in others; or were it intersected by arms of the ocean,—or in any way

diversified in feature and climate,—then its power of imposing its character upon neighbouring tracts could be limited. But it is uniform, and its vast monotony gives character to all Australia.

We venture to presume that in determining a climate, next to extent of areas of land or water, comes the consideration of the features of the land, its elevations and depressions, and their extent and positions. For in any latitude, or under any atmospheric conditions, the form of the body of land, or its physical geography, determines its climate more than all other conditions. Let the field be in any latitude, its elevation or depression will change many degrees of temperature; its extent will reduce the effects of neighbouring climates, whether of sea or land; and its tameness or boldness, monotony or variation of landscape, will signify its changes and variety of weather. The same seas, of equal volume and temperature, may wash adjacent shores, which lands may be swept by the same atmospheric waves, equal in volume, temperature, and moisture throughout, the lands may be of identical soil, and yet the one may be fertile and the other barren; the one land may be the seat of beauty, wealth, and civilisation, the other the bleak and miserable home of savages. If flat and uniform, little rain will be intercepted; and if large and low, a maximum of heat will be retained and a climate of extremes prevail; but a bold mountainous land would command the clouds of many winds, that they should irrigate and enrich the land. A varied climate will increase the powers of all life and multiply the means of man in his war of progress. Therefore it is that, in determining the character of any country as a field of

settlement, the first question is one of climate; and to ascertain a climate, the first question is of the physical geography, or position and outlines of the land. Situated in the hemisphere of sea, the island of Australia is, nevertheless, continental; and it takes its whole character from its interior more than from its seas. As its interior is immense, it imposes marked peculiarities upon its margin, a region of settlements acted upon by both land and sea climates; and as that immense interior is uniform, or very nearly so throughout, its power as a factor in producing climate is greatly increased. It is so immense and so uniform, that all Australia, except a strip of about 200 miles round three sides, may be called one plain.

In this respect the great south land is like no other. It does not rise towards the interior to run into chains of mountains, nor form great tablelands; it only varies its monotony to dip towards its centre. It does not either fall sufficiently to form a Caspian Sea or a vast lake system, but only enough to mark the depression with shallow uncertain sheets of water. Nor is its drainage altogether coastwise, nor inland, nor both effective; but imperfect. Sometimes it falls coastwise into the sea, but often inland to shallow lakes, and these lakes have generally no outlet but the dry hot air of the interior, which rapidly drains in evaporation all their collected rainfalls. This interior plain, except upon its southern end, does not reach the ocean, nor is it generally bound by high ranges; it falls gradually, from comparatively low edges, towards the interior and southward; these edges, upon the west and north and east, again fall coastwise, but interrupted not unfrequently by bolder breaks than the inland slopes.

While the mass of the continent slopes, as it were, southward, it may be also observed that some geologists consider the southern portions to be now rising from the sea-level; and it is indubitable that the Great Barrier coral-reef of the north-east coast can only be accounted for by supposing a gradual subsidence of the adjoining shores, the original base of the structure.

Towards the west, within a distance of rarely more than 200 miles of the west coast, this great plain shows an edge falling coastwise from an elevation of 2000, and occasionally 3000 feet. Presenting coastwise a bold outline of granite ranges, the broken margins of the plain, there is all the appearance of a chain of mountains; but the slope is almost altogether coastwise, and the Darling Range, when surmounted, discovers its true character by its almost level and uniform summit stretching in sterile monotony eastward. It is the edge of a low table placed upon the interior. This extends from the south-western extremity of the country along the western coasts to the 25th parallel. Rising, at first perhaps abruptly, from the coast to an elevation of 1000 feet, the country continues to ascend in steps of granite and syenite gradually for 200 miles, where it may reach 1400 or 1600 feet, sometimes 1800 or 2000 feet, and in rare instances 3000 feet elevation; thence eastward the landscape stretches over dreary sandstone plateaux, generally saliferous, sometimes ferruginous, broken by marshes containing salt and gypsum, or rarely by eruptive granitic formations. This sandstone plain is not drained by any large river to the westward.

The north-western coast is similar. Its streams have

short courses from the edges of the central plateau, that is, of not more than 200 miles; for no explorers have been able to penetrate the interior from this base. And while these streams have their sources within 200 miles or less of the sea, no clearly defined fall has been found on the other or inland side of the watershed, to guide the traveller eastward. Upon the north coast the Victoria river was followed inland to a point about 200 miles direct from the seaboard, where it was found to head from a sandy desert, without a range or a mountain, at a moderate elevation of not more than 1000 feet. Eastward from the heads of this water extends the base of Arnheim's peninsula, of the same sandstone plateau, of the same low elevation; and this at the watershed of streams which fall southward inland, a long thousand miles from a southern sea. Within Arnheim's land, however, north of the watershed of southern rivers, this plateau must rise into higher tablelands; for Leichardt found the Alligator river among sandstone gorges 3800 feet deep. But the sources of southern waters are not 1000 feet above sea-level, by Messrs. Stuart and Gregory's reports. The watershed of Carpentaria is also rarely more than 200 miles inland and low. On its western end the edge of the great plain may be 2000 feet in elevation, but its eastern end—the north-eastern corner of the interior plain—is not more than 1500 feet above sea-level; and yet from this point the Thomson waters have a direct course of not less than 1000 miles to the sea, many thousands by any practical course for water, a small fraction of which is only used.

The eastern margin is a more irregular fringe of sandstone tablelands, broken in many parts by volcanic rents,

interrupted by intrusive granites and basalts, and sometimes denuded of its sandstone base even to a very low elevation. Within the tropics it is a wide tableland of about 1200 feet elevation. Near the 25th parallel it is broken by volcanic irruptions rising to 2000 feet, and traversing it east and west. South of that, the edge of the inland plain is often tilted up by volcanic actions to greater elevations, to perhaps 3000 feet; it is now a well-defined range, a backbone to Eastern Australia, although very near the coast of the country, and known as the Australian Cordillera. This margin is nearer the sea than any other; yet it attains great elevation, being often upwards of 2500 feet, and at its south-eastern corner, at one point, fully 7000 feet above sea-level. It is often interrupted in its inland fall by spurs and by disconnected ranges; it is altogether a more broken and diversified tract of country than either the northern or western edges of the great interior plain. More fields of volcanic soils have been spread over the slopes of the watershed, more bold and irregular lines of elevation attract a more frequent and copious rainfall, and a more perfect system of drainage is found here, than in any other portion of the interior plain.

On the south the boundary is the sea. The south-eastern coast-line shows the outlet of some of the drainage of this immense tract of land; but the south-western shore does not discover one river's mouth. All along the Great Australian Bight, for 18 degrees of longitude, not one stream enters the sea. All the dreary coast presents a blank line of low sandstone cliffs, on the summit of which Eyre saw no promise nor possibility of better drainage

inland—a sterile arid waste, telling nothing, but promising nothing, of the interior and its unaccounted-for waters. Neither river on the coast, nor mountain inland, nor the vegetable or animal life which indicates a more habitable region, here induces the explorer to hope for better lands in the interior.

The physical geography of one-half of this continent cannot be described, for the country cannot be explored; and for this reason—that half the map is a blank—in all probability, half the country is a blank. Of all that portion of Australia which lies west of the 135th meridian we know only that no one can penetrate it; that no river whatever drains it on the south; that the streams of the west and north only drain a margin of land 200 miles wide; and that the inland watershed is of no elevation, and the inland flowing streams so feeble as to be of no use, even to the explorer. There is no fall of country, no sign of drainage, no knowledge, nor even rumour, of that development of life which could lead us to hope for an inland lake. All is barren. On three sides no river comes from a tract which is in area about two-fifths of all the continent; nothing promises or allows hope for an inland water; and on the fourth side is the continuation of the same country, gradually acquiring towards the east a better drainage, indicating that more diversified surface of land which men can explore. For no drainage to speak of comes eastward across the 135th meridian from this vast waste. The line of telegraph traverses the continent between the 137th and the 133d meridian, without crossing any water definite and permanent enough to be called a river.

Eastward of the 135th meridian, however, we have a better field; we can trace water systems to their sources, and, from a knowledge of their configuration, estimate the effects of the atmosphere upon their basins. The first system which can show any definite limits and drainage is that of the Thomson or Cooper's Creek waters. It rises in the 21st parallel, and from that drains tropical Australia to within 200 miles of the east coast, and across probably 10 degrees of longitude; but its western drainage cannot be laid down yet. Its northern and north-eastern watersheds are rarely more than 1500 feet in elevation. Its course is inland to a drier region, through a tropical country, but flat; and so flat does its course become, that before it is halfway seaward it loses the character of a river; it spreads over many miles of country, collects tributaries by many branches and deltas, covering the lower country—about the 28th parallel—with a network of rivers, swamps, and wastes, dry or flooded according to the season. It unites in one main channel, only to be again dissipated in shallow lakes and indefinable channels. From the north it collects uncertain tributes by equally unmarked courses; but henceforth it receives no more drainage from the flat region it traverses, when it does move in its sluggish course.

Mr. Gregory is believed to have traced these waters to Spencer's Gulf; but Captain Sturt reported that at lat. 29° 40′, long. 139° 20′, in the close vicinity of this water-course, he found the boiling point of water to be 212·75° Fahr., which makes that station considerably below sea-level. Lake Eyre, north of this, must receive large floods of northern water sometimes, which possibly continue

their course farther south; but all this tract is the bottom of the basin and not above sea-level. Many lakes are defined, for wet seasons cover the region with lakes and marshes, if not with rivers; but dry seasons evaporate every lake. This basin, from its northern edge, where it divides water with the Gulf of Carpentaria, at moderate elevations within 2000 feet,—and its north-eastern, where it drains the sandstone plateau of the left banks of the Thomson, never exceeding heights of 1500 feet,—all is flat country. Since first leaving the ranges and broken country, it receives one more tribute only from elevated ground; this is the Barcoo, the last and richest stream the Thomson waters receive. On all other sides the basin is not enclosed or interrupted by any bold ranges or changes of landscape, and no more means of drainage are effective. The Barcoo is the south-eastern branch, coming from the east-coast watershed at an elevation of 3000 feet, and divided from the Darling Basin on its south by a volcanic range, reaching 2000 feet in elevation. Not only does no more irregularity of surface assist drainage, but the rivers starting from these moderate elevations soon run down all that decline, and have not fall to carry them half their journey, even under favourable conditions as to tributary drainage. At the junction of the Barcoo with the Thomson, 700 miles across the map to Spencer's Gulf, the destination of that water, Sir T. Mitchell ascertained the elevation to be only 633 feet above the sea.

It is only the eastern margin of the great plain that is drained, which offers that fall of land to admit of rivers and their tributaries continuing their course with strength enough to reach the ocean, without staying their progress

to inundate lowlands. The eastern margin, at once the boldest and the nearest to the coast, is drained by the Darling rivers, and they find a clear passage to the ocean by the Murray river. This river, then, is the only true and permanent outlet to the drainage—that is, to any of the drainages—of an area of one and a half millions of square miles—at least half the country. It is the one river system of Australia, only possible here; and its conditions are therefore most interesting.

It heads near the tropics, at a north-eastern angle of ranges not more than 3000 feet high, and its northern watershed with the Barcoo is of an elevation of 1800 or 2000 feet. This northern range is short however, far inland, and being lower than other ranges between it and the coast, cannot assist much as a collector of water. Its north-eastern or extreme head is in broken bold ranges, within 200 miles of the coast, and not overtopped by any land between it and the coast. More southward the edge of its basin is found in Darling Downs, a tableland 2000 feet in elevation, and close upon a coast; from these many of its tributaries fall; they start inland full of vigour, promising to meet northern and southern sister streams at far-distant points. Southward again, the basin is yet more favourably outlined to intercept rain-cloud. Well within the temperate zone, not more than a day's journey from the ocean, the noble tablelands and ranges of New England cover a wide area, 3000 feet in elevation; and from these many more streams fall inland, struggling through a dry land to effect that junction,—to obtain that assistance from northern streams,—which alone can secure their perfect passage to the sea.

In this the eastern branches succeed. They continue their courses, although losing in volume and force; they join without increasing in size, and manage to meet some streams of the northern watershed at points nearly 500 miles inland. But their course has been one of aridity and evaporation; not one kindly range, hardly a hill, assisting them since they left the land of their birth. Always decreasing in size, a score of noble streams only keep their channels open, and form by their junction the Darling river at Walgett, a small sluggish stream. Many of the northern tributaries do not effect even this; many of them fail in keeping a passage open to the Darling; they dwindle by evaporation, are stayed by want of decline in the country, and at length disappear in networks of channels and marshes,—seas in floods, and wretched wastes of aridity in dry seasons. Only eastern and north-eastern tributaries of the Darling maintain open channels to that river, and not all of these; no stream from the north or west has a mouth in the banks of that river. From the 30th parallel to the junction with the Murray, no ranges send the smallest assistance to the Darling. Four hundred miles direct—many times that distance in travel—the sluggish stream winds through this immense plain, a small corner of the great central plain, of which it is the best specimen. The Darling is simply a large ditch in a great plain; it has a narrow, tortuous channel, timber-clad and uniform, with a small stream merely moving, even in flood rarely going more than three knots an hour.

But at the junction with the Murray, the richest drainage in Australia is added to this stream, including the remaining waters of the south-eastern portion of the great

plain, and its rich watershed 7000 feet high. Since the New England waters, the rivers Castlereagh and Macquarie had started for the Darling, but only the latter keeps a clearly-defined passage open in all seasons. It heads at elevations of 3000 feet within 100 miles of Sydney, and, gathering together many fine streams, leaves the mountains and tablelands behind, long before it struggles as far as the Darling; it reaches the latter in a flat dry country through uncertain channels and wide swamps. The edge of the great basin—the watershed of the rivers—is, however, still bold, rarely less than 3000 feet high, broken and assisted by spurs and disconnected ranges in rescuing the country nearer the coast from aridity and sterility. From Queensland to Victoria, the watershed of the east coast is always within 100 miles of the sea, sometimes not 50 miles, never interrupted in its exposure to sea air, and rising at its south-eastern end to greater elevations. Here the Australian Alps attain heights of 7000 feet above sea-level, whence the Murray with its tributaries, and the Murrumbidgie—the two finest rivers in Australia—flow inland towards the Darling. The Lachlan falls from ranges 100 miles west and south-west of Sydney, it joins the Murrumbidgie after passing through a flat country; but the latter stream swamps the northern base of the Australian Alps, which run as a westerly continuation of the Cordillera, the highest range in the country. This range thus turns somewhat as the coast-line curves at Cape Howe; it is altogether, summit and flanks, within 150 miles of the coast; it is an immense mass of mountains, from 3000 to 7000 feet high, and, facing the southern currents of air, intercepts an immense volume

of moisture. Besides the Murrumbidgie on its northern slopes, it feeds the Murray on its southern and western slopes. Hence the Murrumbidgie and the Murray are two noble rivers, always carrying a large body of water to join the Darling, and admitting of navigation for considerable distances. But from the Queensland frontier to that of Victoria the Darling system receives little or no water from the basin of which it is the main drain; and from this point its course is again through a flat country, without any tributary—a long slow journey to the sea.

Such is the character of the best-watered portion of this great Australian plain, that its drainage is very incomplete. Rising from bold coast-ranges, the rivers speedily fall into a country too flat for them to traverse. Only a short course from the mountains, and these the highest of all the ranges, enables the two finest rivers to keep up the water supply of the main drain, which is the narrow feeble representative of a number of fine streams—the drainage of 150,000 square miles of the best of Australia.

The margins of this great interior plain, however, are not the coast-line; but within 200 miles, and sometimes within sight of the sea, except upon the southern side, there is always a belt of coast country, having seaward exposure, and presenting differences of climate and landscape, more in accordance with its stretch of latitude. Monotony is the character of the great plain; variety, of the irregularly elevated and depressed coast country. But the larger body of land imposes its climate and characteristics upon the smaller regions to a great extent. Between the Indian and Pacific Oceans on one side, and the

great arid plain on the other, this narrow belt is the disputed ground between sterility and fertility.

Upon the south-eastern coast, the Alps leave a mass of mountains upon one side; a land of deep dark lakes and heavy forests, mountains and morasses, rivers and floods, almost impassable, more than abundantly watered: such is Gipp's Land. But on the northern side of the range a broad tableland, called Manera, rises abruptly from the coast, and falls gently inland, feeding the Murrumbidgie with its highland streams, leaving a small seaward margin. The eastern coast assumes many peculiarities; the situation as to exposure and elevation having more effect than latitude. South of Sydney, at Illawarra, there are patches of rich volcanic lands, extremely sheltered from inland parching blasts, and open to a mild sea air; these support a vegetation quite tropical. The more high the ranges, and the more boldly they front the sea-breezes, the more rains, rivers, and rich valleys they give the coast. If of sandstone strata, as at the back of Sydney, the streams come through narrow gorges, leaving small valleys; but if they fall from upheaved ranges and volcanic irruptions, wider and richer meadows follow the river. The Hawkesbury and its tributaries have some fine flats, but their valleys are often mere gorges. The Hunter has an immense continuation of rich vales, forming one of the finest agricultural districts known. And northward, the edge of the inland slope comes nearer the coast, but boldly, so that the limited coast-land has some navigable short rivers and rich valleys.

From the 27th parallel, the main watershed—that is the edge of the inland basin—the division of eastern

and western waters is more inland; and frequently it is not marked by any break upon the surface of the wide tablelands. Another barrier, called the Coast Ranges, extends between the coast and this main watershed. This coast range is continuous and separate from the other for ten degrees of latitude, where it again joins into it, culminating in the next highest peaks in Australia, in altitudes of from 4000 to 5000 feet, at Rockingham Bay. The country between these two ranges is throughout a tract of broken country, interrupted by volcanic outflows from the western flanks of the coast range, by isolated parallel ranges, and small tablelands of trap. It is a well-drained country, but never reaching to 3000 feet elevation, and having sometimes its highest points nearest the sea, thus intercepting the rain before it reaches far inland. At Rockingham Bay, however, an immense mass of ranges almost overshadows the sea, cut into deep rich valleys, teeming with vegetation. Thence, northward, the ranges run to the 14th parallel: where, from the east to the west coast of the York Peninsula, neither range nor hill divides the waters.

The Gulf of Carpentaria has no coast range. The country is flat, like the valley of the Darling, it rises only at 150 miles inland, sometimes gently, sometimes abruptly, into tablelands, of elevations always under 2000 feet. Of the northern and north-western coasts less is known; for explorers, when baffled in trying to penetrate the interior, seldom examine the coast limits. But a coast range seems sometimes to intervene between the edge of the inland plain and the sea. This edge presents the view of a range called the Darling Range; but, as

already mentioned, it slopes only seaward, being a table-land on the summit, having too small a fall inland to be noticeable. It rises to 3000 feet elevation in places, but is rarely over 2000 feet, and sometimes presents an abrupt decline with a step near the coast, generally a slope in broken country.

Such is the configuration of the continent. One plain, without a break upon its surface of 1,500,000 square miles, its centre lower than its margins, and both too low to drain its meagre rainfall. These margins are not the coast of the country, except upon the south, and between them and the sea are the richest and best-watered lands. This margin of the great plain, or watershed, is from 1500 feet to 3000 feet elevation, and from 100 to 200 miles inland; the south-eastern corner having the highest and boldest outline; the northern portion being more irregular, and often lower than any other; the southern, a low cliff facing the sea.

CHAPTER II.

Radiation of heat in the interior—Supply of sea air—Monsoons—South winds, their contact with the land—Rainfalls in South Australia, Victoria, New South Wales, and Queensland—Decreasing supply inland—Droughts and floods—Probable fate of Leichardt.

WE may assume then that the most potent factor in determining the wind and weather of Australia is this great plain. A basin having its northern portion in the tropics, it acts like an oven under the daily sun. It becomes daily heated; then its atmosphere expands; but such is its immensity that no sufficient supply of moist sea air from the neighbouring oceans can reach it, to supply the vacancy caused by this expansion. Of an almost perfectly flat surface, there is no play for currents of air upon it; only the heat is daily absorbed and nightly radiated. Such is that heat, that in the summer the soil is more like a fire than an oven; the air if it moves is like a furnace-blast; and such is its extent and sameness, that as great heat may prevail hundreds of miles south as north of the tropic. If it is the position as to latitude and neighbouring bodies of water that first give character to a climate, the next condition is its configuration. Were this region in another position, or were it less uniform and extensive, its climate would be very different. Ten degrees farther north the greater portion of Central Australia would be

tropical swamps and jungles, or absolute Saharas. As far south of its position, it would approach Russia in its bitter inhospitable winter. Its extent next gives uniformity and fixity to its peculiarities, and removes it from, or gives it command over, neighbouring influences. A smaller area would be more easily traversed by currents of vapour-laden air from the ocean; then the daily radiation, the expansion of air, would be answered quickly by inflows of atmosphere, and an equality be more easily approached in temperatures, rainfalls, and seasons. But semi-tropical, wide as an ocean, and if not flat, concave, this interior absorbs heat daily, to intensify and exaggerate the effects of its arid soil; it radiates it in desert blasts, absorbing any scant supplies of far-fetched milder atmosphere, arid and insatiate. Its outlines forbid any play of the currents of air upon it. An influx is quietly absorbed, and its expansion is upwards, without any diversion. For no mountains interrupt any movements of atmosphere, no irregularity of surface bends and breaks the upper currents, that cooler air might be guided down upon the heated plains, or bear away the ascending and overhanging haze of heat. The only winds are hot winds. Had there been a bold range of mountains bisecting the interior of the continent, from Spencer's Gulf to Carpentaria, everything in the country would be far otherwise; and had such a range reached the elevation of the snow-line for most of its length, Australia would have been one of the most productive countries of the earth. A Mississippi would have flowed into the southern ocean, more wheat than wool would be exported, and millions represent thousands of present or future populations.

But this continual radiation is sometimes relieved. Here, as elsewhere, the comparative vacuum it creates attracts the air from denser atmospheres, and notwithstanding its extent and insatiate demand, there are supplies furnished in emergencies. All neighbouring oceans contribute. The southern air is denser than the northern, and seeks more room northward; and the sea, east or west, or north, can always supply cooler air to counteract the radiation of the land. As a great body of land reduces the density of its atmosphere, and tempts adjoining currents of air to fill the void, so, upon the north of the continent, there are north-west monsoons, for in that direction is the greatest body of water, the Indian Ocean. Annually, as the continent gets heated, this supply is delivered. During the cooler months, probably the tropical sea, in its continual evaporation, has a greater need of more air to supply its rare atmosphere than the southern land; certainly it does not spare any of its breezes to the interior of Australia until the end of November. But by the time the continent has become thoroughly heated, the summer solstice is nearly reached, and the radiation is greater; therefore the demand for more air is greater by land than by sea. These monsoons blow on the north-west coast during all December, January, February, and March. They penetrate inland according to the nature of the country; as the surface radiates more or less, the demand is greater or less. An illustration of this was found at the head of the Victoria river. Here Mr. Gregory encountered a sandy desert, and it was ribbed by parallel waves of bare sand, left by this wind; again, at the head of an Eyre water, near the centre of the continent, Captain Sturt found a

similarly marked sea of sand. From this we may presume these monsoons reach 500 miles inland sometimes. At the Gulf of Carpentaria the action of these winds is not so uninterrupted, as the larger bodies of land to the north must require larger supplies of ocean air, during the hottest season in particular. For New Guinea is not only larger but mountainous, and must drain a great portion of the ocean currents of atmosphere. But even in Carpentaria these monsoons penetrate far inland; irregularly passing over the low watershed of the northern and southern waters, they irrigate the basin of the Thomson generally, if not entirely; for droughts are almost unknown on the Upper Thomson, though common to the east and south of it; and when they have occurred on the Barcoo, they have been often broken by rains from Carpentaria.

But the north-west monsoons are only one supply of this air which the radiation of the interior demands. The other is the south wind, or those volumes of air which 'the brave west winds' of the Australian traders bring to the southern coasts. These bodies of atmosphere are always cooler and denser than the air resting upon the inland oven, and always eager to find room in that more rarefied region. Hence, the most prevalent winds on the south coasts are from the south-west to south. There are two winds, two temperatures, and two seasons known in South Australia, and only two—the south-west and the north winds: one cool, refreshing, and enriching; the other, hot, blasting, and destructive. But the southern coasts are not bold and mountainous; the country presents no outlines and obstacles to impede these currents, and deflect them upwards, that their vapours might be con-

densed by a higher and cooler stratum of air; they sweep inland unintercepted, leaving very little rainfall on the flat parched country. There are no ranges on the southern coasts of Australia except in its eastern corner, and the first of these in the colony of South Australia run north and south, offering no face to the winds of the sea. Such are the Flinders and Barrier ranges, the latter the western watershed of the Darling for a short distance, reaching elevations of 1000 or 1200 feet, and both having a meridional axis. And this scanty rainfall is heaviest nearest the sea; the farther the volumes of sea air travel inland, the less vapour have they to yield, and no obstacle stays their course to demand this quantity. At Adelaide and Gawler, on the seaboard, the annual rainfall is from 15 to 20 inches; at the head of Spencer's Gulf, which may be called an inland station—for the gulf is very narrow—and from that northward, the annual supply of rain is from 8 to 6 inches; less and less the farther north. And in the region of the lakes, the bottom of the great basin, the centre of heat radiation and aridity, the rainfall has in many years been absolutely nil; indeed, it is said that two consecutive years have passed without a shower.

This is the centre from which radiate the extremes of climate peculiar to the whole country, with the many consequences thereof. Years of drought are followed by years of wet seasons; sterility, losses, and poverty, by riches. This is the battlefield of nature; and the extreme radiation which arises in this great basin, after years of drought and heat, is in all probability the cause of the fact that wet seasons generally follow droughts. For when a continued and cumulative drought and heat

and radiation, a continued and increasing demand for more atmosphere, have reached a certain point, the volumes of ocean air may be tempted farther inland, and in greater volumes than usual; and the result be immense precipitation of their vapours. This may explain why floods so frequently follow droughts; why, after one or two dry seasons, one or two as extremely wet may be looked for. The two great currents of air which every summer rush upon the hot coasts of the country, to fill the vacuum in a highly heated and rarefied atmosphere, may be called inland in greater volumes and force in extreme droughts; and if they penetrate so far inland as to encounter each other, a flood may be expected. For the southern current would be antarctic, cold; while the warm tropical monsoon would be laden with the evaporations of equatorial seas; the cold southern breeze would condense and precipitate the tropical vapour, and drain the monsoons of their floods of rain which they brought from the Indian Ocean. Thus these rains and floods may bring other succeeding rains and floods; for the hot steaming surface has no adequate system of drainage to remove its waters. They evaporate in heavy clouds, which are ever and again precipitated as they reach the higher and cooler strata of atmosphere, and showered down in flood after flood. Months and years may pass before the vast supplies of water are removed; for there are no rivers, no means of drainage, except the atmosphere. Many changes and many winds will gradually drain the basins; but wet seasons, as droughts, may last for years.

The southerly winds which impinge upon Victoria meet a much bolder interruption in the ranges of that

country; if there is not such a demand for their volume. All rain coming from the sea, the only measure nature offers us of the rainfall is the means of condensation by the land, the means of guiding the currents of sea air to a higher and colder atmosphere, there to be condensed and precipitated. The coast of Victoria is bolder than that of any other portion of the south of the continent, and the rainfalls are greater; at Cape Otway, 38 inches, and at Portland, 32 inches; while inland, at Sandhurst and Ballarat, 24 and 25 inches, annually. But the backbone of Victoria, and her frontier with New South Wales, is the Snowy Range, or Australian Alps, a grand barrier, facing the south winds for 200 miles. This range reaches an elevation of 7145 feet, and is always snow-clad upon certain points at this singularly low elevation; a fact which requires explanation, but is well known. Baron Müeller reported that Alpine flora commenced at 5000 feet, and that he found *nevé* at the highest points on the range. Perhaps the dry character which the interior gives to the whole atmosphere of Australia, by intensifying cold, as it also does heat, has reduced the elevation of the snow-line.

From the west end of this range fall inland the finest rivers of the country. The coast country is in Victoria a tract of mountains and highland lakes; in New South Wales, more sheltered, it is a fine tableland. The coast line turns northward here, offering much less face to the southerly winds, which are necessarily drawn inland henceforth by theheat of the land, rather than driven against it in their course. Their lower country is not so well watered, although often as bold in outline, as the grand peaks of the

snowy mountains. Thus, at Eden on the coast, the rainfall is 26 inches annually; at the foot of the range, 50 miles inland, although 2600 feet in elevation, only 19 inches; but at Kiandra, 4600 feet above the sea, and among the summits of the range, it reaches an average of 60 inches.

All along the east coast the rain is supplied by the southerly currents of ocean air, which are attracted inland by the rarefied atmosphere. These currents are bound northward, to fill the voids made by the great evaporations of northern warmer seas, and the uplifting of their atmospheres. They are deflected inland by the easting which the rotation of the earth gives them, and by the void made by inland radiation. The first bold range they strike drains them of most of the moisture; beyond that a scant supply is meted to the low country; and this supply is continually being reduced before they reach far inland, to a low and warm country. Hence, the edges of the great plain being higher than its interior, little rain reaches beyond this barrier. The coast country of New South Wales, backed by bold ranges, is much better watered than the western slopes; and little or no rain penetrates the interior. Sydney and Newcastle, upon the coast, receive 48 and 44 inches annually. Currajong, a point at the eastern foot of a bold range, within 40 miles of the sea, received 65 inches in 1871. But Bathurst, on the inland slope of the same range, being walled off from the sea, although 2000 feet above, and within 100 miles of the sea, has an annual average of only 23 inches; and Mudgee, farther inland, has less. Nearer the sea again, Goulburn, on the top of a tableland, rather than on a slope inland, has more rain; while down the inland slope from that

point the quantity decreases; at Young it was only 8 inches in 1871. Sometimes a block of higher country may intercept air which has hitherto been almost uninterrupted in its course from the ocean, whereby its rain is not tapped; in which case a heavier rainfall may be obtained than at many intermediate points. Orange, at an elevation of about 3000 feet, obtains more rain than Bathurst, which is much lower, although nearer the sea. Always decreasing towards the interior, at about 100 miles inland, near the ranges which edge the great plain, the rainfall will be about 20 inches; at Dubbo, 180 miles inland, it was 15 inches in 1871; and at Burke, 390 miles inland, less than 7 inches.

The bolder the coast, the less chance of rain for a low interior; but if the inland country is also a tract of highlands, particularly if it overtops the coast ranges, then its rainfall may be equal to that upon the seaboard. The Clarence river receives about 40 inches; and the New England highlands, notwithstanding that ranges of 2000 feet or upwards interrupt the south and south-east breezes which bear their rainfalls, still receive rainfalls of upwards of 30 inches; for the district is of 3000 feet elevation, and is within 100 miles of the sea. Drained by these elevations however, the currents of air sweep inland, compressed like a sponge of their waters, unable to assist the feeble Darling tributaries to continue their courses to a junction. The same occurs again in Queensland: the coast range precipitates most of the moisture upon the lands facing the sea; the tablelands receive the next, or smaller supply; and very little is left for the western slopes.

The annual rainfall of Brisbane is about 50 inches,

ranging between 25 and 80 inches. At Dalby, upwards of 100 miles from the sea, it is about half that, although at great elevation; and farther inland it is less and more irregular.

But here the coast-line takes a bend to the west of north, running parallel to the south-east trade-winds. From this point the sea-breezes have no coast-line to meet their course; and there is only the attraction of a rarer atmosphere, caused by radiation, to divert them from a constant and steady course. And although the wind is perhaps more from the south-east than from any other quarter throughout that district north of the 25th parallel, yet it is a dry tract, peculiarly subject to droughts. For the south-east wind, to reach this point, passes over the Darling Downs, a higher and colder region, which condenses much of its moisture, leaving no means for this northern district—a tract without great elevations, and with a tropical heat—to obtain more rain from the exhausted air-currents. The south-east wind may blow for months without rain here; and when it does accompany any downfall, it is probably after more direct sea-breezes, as from the north of east, have in the first place brought a supply of warmer moist air for the colder southerly stream to condense. The average rainfall of Rockhampton and Port Denison is less than of most points on the coast south of the 25th parallel; and inland, within any distance of the coast, the supply is also less than farther south. At Springsure, within 100 miles of the sea, it is generally under 20 inches; although, in exceptional years of floods, which often follow droughts, the rainfall may be more than doubled.

Northward of the 25th parallel again, both north and east, seas are too near all parts of Eastern Australia to leave room for great aridity; and the coast range being often bold upon the eastern seaboard, some places are favoured with frequent rainfalls, as Mackay, lat. 22°; or with both frequent and heavy rains, as Rockingham Bay, lat. 18°. This latter point, perhaps, receives more rain than any locality known in Australia. Here the coast range is within a few miles of a tropical sea, and rises, with an abruptness which makes it almost impassable, to elevations of 3000 feet, and in one point to nearly 5000 feet. The rainfall here in 1871 was reported to be 90 inches. But throughout the York Peninsula all the land is within 150 miles of the sea; it is all broken and mountainous; therefore it all receives a tolerable supply of rain. And upon the northern shores the north-west monsoons yield annually a tropical wet season.

Such are the rainfalls of Australia: never heavy, and never permitted to travel inland, except upon the southern coast. Here excessive drought and heat meets the air-currents, forbidding the condensation of their moisture, and absorbing all their volume. But often these southerly winds are repelled by the hot winds of the interior; and these are a scourge of all the temperate latitudes of Australia. Arising from the expansion of air caused by inland heat, possibly the volumes of atmosphere cannot find vent upwards, from strong currents of air sweeping through the upper strata, and can only find escape laterally. They are experienced most frequently in South Australia, and sometimes in Victoria and in some portions of New South Wales. From the heat whence these hot winds arise, and

from the mountains which fringe the coasts, little rain ever reaches 200 miles inland, much less 400 or 500; and only in exceptional seasons is there any rain whatever at the centre of the continent. This aridity is not only central but general; it extends from the centre, as a focus, towards the coast, down to the very seaboard; it is felt in many ways besides the waterless rivers and scant vegetation, and particularly in the extremes of temperature. While exploring the interior, most remarkable temperatures have been recorded, and extremes are invariable in the dry inland settlements. Kennedy, in exploring the Barcoo, reported that upon the heads of that river, the elevation not exceeding 1800 feet, in lat. 25°, he found the thermometer one morning at 8° Fahr. And with the aridity those extreme frosts spread down to the coasts, decreasing as a milder moister climate is reached, but not disappearing at the sea nor even within the tropics. The sugar-planters at Brisbane suffer very often by frost; at Maryborough, in lat. 26°, the cultivation of cane was seriously endangered by frost; at Port Mackay, in lat. 22°, many crops were cut down; and even Rockingham Bay, well sheltered from inland blasts by a wall of mountains 3000 feet high, upon a tropical coast, in lat. 18°, was visited by sharp frosts in 1872.

The rivers also in their courses and channels, besides in their feeble volumes, testify to the dry climate they are always passing through. Towards the interior they inevitably evaporate more than they collect, and often decrease to disappearance; and coastwise even most streams decrease in volume. The numerous mountain heads of a river are frequently larger than the stream that enters the

sea, and this may account for the fact that most Australian rivers have bar-mouths. For a constantly-evaporating volume will always be depositing in its channel more and more of the *débris* and soluble matter it carries; the channel will always tend to be filled, or kept clear only until a tide checks the feeble current, and precipitates a sand-bank at its entrance to the ocean. At intervals floods sweep through these beds, but only to leave as much deposit in their slow subsidence as they had swept down in their advent.

Floods generally follow droughts. On the coast, the more mountainous the country the more rarely are these extremes felt; but no part of the country is free from their visits. It is in the interior, however, that they have their home, and from that stronghold the forces which call the floods forth rule supreme, their power declining as they approach that of the ocean: Here, in the depression of the great plain, there is most probably only one long drought, or one long wet season; no seasons of a year, but years of a season. Wet seasons, like droughts, may last years; for the seas of shallow water, the innumerable lakes and marshes which some explorers in wet seasons have found north of Lake Eyre, may be years in evaporating, as frequent condensation must take place by the cold southern winds. And this milder inland climate will tend to mollify that of neighbouring regions. But these two extremes are overpowering; they make that interior almost uninhabitable, and they rule the character of the country, the produce, the people, and the history of the land.

The desolation of a drought is not less complete

than that of a flood, and it perhaps has more effect upon the survivors. For years these droughts gather in force; they multiply their action before they are broken by the floods, and their termination is in a melancholy, awful landscape. For days and months the earth has been hot, parched, and cracked; for months the waters have ceased to flow, the trees have lived but not grown, and the sky has been cloudless. The never-green forest is browner, sadder, and still in the oppressive air; the plains are bare and dusty; the watering-places filled with dead; and the whole scene quivers before the eye by the great radiation of its heat. Daily the sun rises in a hazy sky, sails in a white heat through a cloudless course, and sets, a round red ball of fire, on the edge of a copper dome. A sullen dewless night follows the dreaded day. The leaves of the forest and the surviving grass of the field glisten like blades of steel in the glare of the mighty sun; there is no green thing, nor sound of life from bird, or beast, or tree, in the great noonday heat.—At length clouds mysteriously gather—daily they gather, and disappear at night—at last they form dense low masses, thunder breaks, and violent storms of wind sweep the plain; no rain. Again and again these storms break before the longed-for rain comes; and with it comes flood. Perhaps the rain, filling the northern streams first, floods the southern water-channels before a cloud is in their sky. But with the floods destruction to lingering life, no less than hope to withering vegetation, is brought down. Many a settler has been ruined by droughts; but many a flock which survived that ordeal has been silently, hopelessly, swallowed by the flood. Many a life has been

lost thus; and here we may find a clue to the fate of Leichardt.

He started to explore the interior. Having already defined much of the coast watershed, he desired to define the inland or southern drainage, and the nature of this vast inland plain; but from this expedition he never returned, nor have any trace or tidings of him been brought in, except of the very beginning of his journey. It has been conjectured that he was murdered by natives; that he perished in a drought, or for want of food; and that some of the party may still be alive. But each of these suppositions is weakened by the fact that no authentic information of such a fate has been obtained, while some might be fairly expected; for Leichardt had the severest experience of bush-travelling before he started upon this trip. He was accompanied by chosen men, and he had horses, mules, and goats with him—all sagacious animals. And if want overtook him, he could, in all probability, meet it by his knowledge of the bush and of botany; if the natives attacked him, some of the animals would certainly have escaped and made homewards; and if any of the party still lived, some certain information would have been brought in of him. In either case some animal, some weapon, piece of cutlery, or part of their equipment, would have been found by later explorers, and have given a clue to the fate of the party; but no trace has been found. Had, however, one of these floods overtaken the party, weakened by a long drought, their total disappearance is quite accountable.

The reader can picture his party toiling over the white withering downs of the inland slopes, water becoming at

every stage more difficult to find,—the grass becoming drier and scanter, the horses weaker, and the party more dispirited. Sometimes without water, always in a tropical heat, and without any sign of a change in the weather, they would be compelled to stay their progress, and to feel their way from one watering-place to another. This continual scouting would reduce the horses and exhaust the men. But the water-holes dry up, and they were forced to shift camp. At last they found a large lagoon, and determined to wait for rain.

Let us suppose this lagoon to be in an obscure river channel, 200 or 300 yards long, having grassy slopes leading into and out of it, and not a clearly-cut channel. It had steep banks, 30 feet deep, and some five or six feet of water in the bottom; it is in one channel of a northern stream, where it spreads over the plains, effecting a junction with another river—forming a network of channels and flooded flats. There has been no flood for some years, most of the channels are overgrown with grass and weeds, and patches of downs lie between the meshes of the net. Here the party camped, well knowing they were in flooded ground; but there was no other water. They hoped their horses would recover, that they would rest and gain strength, and with the first rain move on to a better camp. They dreamed of gigantic mountains and noble rivers, of plains well watered and shady forests, while all around was the most dreadful desolation. There is nothing so oppressive and utterly subduing as a drought. It is not a fierce calamity, nor a dreaded blow, nor any brief struggle; here, in the vast interior of Australia, it is a torturing Titan, overwhelming and resistless, but slow

and monotonous in its destruction. Daily the same glaring angry sky, the same cracked, gaping, thirsty earth, the leaden ghastly foliage, the glistening few blades of grass—all quivering in the mighty heat. No green thing, no fresh colour, no breath of wind, no sound from earth or air of beast or bird or insect; all in silence—in a breathless appalling silence. Nightly the sun sets in sullen anger, and the moon rises in the cold distant ether. The firmament is clear beyond conception, the stars bright, the moon radiant; all cool, distant, dewless, pitiless.

They camped. Some life began to show itself; kites and crows watched their camp, and circled over them from daylight to dusk. This was some change from the circling whirlwinds which were the only other break to the dreariness of the scene. Then the air, in excessively hot spots, would silently gather into an eddy, gradually increase the sweep of its little circle, and ere it was observed, there would be a vortex of wind towering far into the sky, lifting up the withered herbs, the dry bushes, the dead reeds and grass, to scatter them—its fury spent—far over the plain. And at sunset some more life enlivened the scene: flocks, clouds of pigeons came and drank at their water, then swept away into the dusk to roost upon the hot ground.—But ere they had been many days in camp, one sultry night they were surprised to find that most of the kites had left them, and that not one pigeon came to drink. It was strange, but stranger still that one of the party, as he returned from foraging with his gun, reported the main channel, about a mile from the camp, was running. Not a cloud in the sky, nor any sign of rain, but here was the proof of rain up the country.

At first they talked of their plans, of how they would travel up the river slowly; and so on. But this was the beginning of the end—they were caught in a net of floods. The last office of the night was to draw water; and in doing so they found that the channel upon which they had camped was running strong. Then began the struggle. Some went for the horses and animals; these were scattered over the plain, cut off from their camp by other rapidly-filling watercourses. Thus the men became separated; nor were the horses ever got together. Some horses, and even men, in the sudden knowledge of their fate, struck out wildly, purposelessly, for their lives, and perished. Others struggled at the camp to save some of their most valuable equipments and stores. They determined to make back to the high land they had left before they crossed a creek two miles back—it must be another river, and surely not impassable yet. It was midnight; the leader urged all on with what they could take; he would follow at daylight if necessary—surely their camp would not be flooded, and they might save their stores; they would save some horses; they would meet at the last camp; and so on. In the multitude of councils there is confusion.

But the floods came in torrents and volumes; they filled all the channels; they netted all the plain; they joined each with the other; they overflowed all banks, and swept the plain fifty miles wide. No man nor horse escaped that night, except the solitary man and a few bewildered animals that happened to gather up to the camp fire. All went before the torrents, drowned in the streams, or bogged in the muddy banks, separated, be-

wildered, and desperate; the waste of waters swept over all, buried the remains in sand and mud, or scattered them over 100 miles of plains. No vestige was left. Daylight came, and showed Leichardt his inevitable fate; alone in a wilderness of water. A great sheet of flood spread over the landscape far as the eye could reach, to east and west, and north and south, one steady slow stream, its deepest channels only to be told by the tops of the river trees. No sign, no hope of any of his party; for he could see many miles of water on each side; he well knew he was in a net of watercourses.

Water, water, but no sign of life; no spot of dry land in sight; no hope. At the camp, his journals and charts, his comrades' saddles, raised another and a mightier flood in his mind. No friend, no comrade, save one or two terror-stricken animals; only overhead, upon a blasted tree, sat a carrion crow. Then the dumb animals, their feet now in water, drew up to the camp fire, and whimpered low their last sad appeal to friend and comrade. No guidance; and they turned and went with the flood, and sailed down the waters, looking to right and left for dry land. Last of all, as the waters sapped and drowned the camp fire, Ludwig Leichardt strode into the flood, and passed away upon that exploration of which no traveller has reported.

CHAPTER III.

Formations and soils—Botanical provinces, and their affinities to neighbouring continents—Exceptional coast districts—Prevalence of interior types—General character—Animals—Human race—Paucity of life—Droughts and fires—The struggle for existence.

THE vegetation upon this land is the result of climate principally, by which all life is limited in quantity, but it is also dependent upon the soil—this we will consider first. The great plain appears to have been, at one period, a plateau of sandstone; for the edges of this, where highest and apparently less reduced by denudation, are of that sediment; and the interior, although washed and scooped out in places, shows nothing against this view. Upon the south margin it presents walls of sandstone cliffs, the edge of a seemingly interminable plateau. Upon the west this sandstone, saliferous and ferruginous, with marshes laden with salt and gypsum, is interrupted by granite. The northern watershed shows, in places, sandstone plateaux and cliffs, and deserts of loose sand. And the eastern margin of the great plain is generally a sandstone tableland, sometimes washed down in wide smooth gaps by its subsidences and emergences, often interrupted by volcanic overflows. Thus the soils are very similar, if not identical, throughout the great inland plain; but differing upon the eastern and western margins,

as these are interrupted by different igneous rocks, the former often trappean, the latter granitic.

The strips of country which occupy the seaboard, between the western, northern, and eastern margins of the plain and the ocean, are, however, more varied. For it is in this belt of coast country that there are more of, indeed nearly all, the upheavals of strata and volcanic interruptions to the formations which, with the irregularities of surface that permit of more alluvial deposits, give a richer and more varied character to the land. The soil, as the climate, has therefore more variety and power of production coastwise than towards the interior. The soil, as the climate, is generally more miserable, forbidding, and monotonous as the flat interior is reached, and more promising as the mountainous coast lands are entered, particularly towards the eastern seaboard. The south coast is itself the margin of this inland plain of sterile sand. The north coast is 200 miles or more from the edge of the interior region, but it often shows plateaux of sandstone, even to its most northern extremities. On the west coast an undulating tableland of syenite or granite falls westward, but without volcanic rocks intruding to much extent. South-east, between Spencer's Gulf and the Darling, meridional upheavals have occurred, as along the east coast, giving increased power of production to the land, in soil and climate. But all the east and north-east coast country is upraised, broken, and interrupted by volcanic action. The great Cordillera has been rent in many places, and floods of basalt and trap have swept over the sterile plains; spurs and parallel ranges have again broken the surface east and west of the main ridge; extinct volcanoes have

covered immense areas with the richest soils; and all in varied temperatures near the sea.

The botanical features of the country are peculiar to the climate, yet make some approximation in character each to the nearest foreign shore. All have some evergreen forests of gaunt eucalypti and hardy acacias, yet each corner of this plain bears some vegetation common to the nearest region across its ocean boundary. There are four provinces of vegetation—the two northern or tropical, east and west, and the two southern, east and west; resembling each Indian, Polynesian, African, and somewhat the South American flora, and all assimilating towards their common centre. The central character, giving its image to the whole, pervades all; it stamps Australian vegetation with a general appearance of poverty; it gives the sombre shadeless trees and the open grassy forest; and it leaves the deep dark woods of the south and the jungles of the north, mere exceptions, small and rare, to the whole wide forest. The eastern and western divisions of the tropical region are not so definite as those of the south; but they are both conspicuously different from the poorer flora of the temperate region. This northern division, according to Baron Müeller, is bounded on the south, upon the east coast, by the 25th parallel; he makes the isothermal of 68° a limit to Australian tropical vegetation; but the nutmeg has been found in latitude 26° upon the west coast. And all the eastern slopes, having sheltered situations in good exposure to sea rains, have some richer foliage, some broader leaves to drink more rain—have some shady Indian genera interspersed with the barer, poorer Australian types. Such

are the 'Cedar Brushes.' There are also Malayian species, ascycas 30 feet high, with many palms common to all the north-east; and in the hot valleys lying under the Bellenden Ker Ranges, which tower over a tropical sea, flourish impenetrable jungles. But the most Indian-like flora is that of the northern sandstone tablelands. These have, in common with the sandstone ranges of Bengal and Central India, some terminaliæ, sterculiæ, bauhiniæ, and many herbs and grasses. And it has been remarked by Dr. Hooker, that whereas Australia has 500 species which are types of Indian vegetation, no purely Australian species is to be found in India. Does this lead to the supposition that the Australian continent, as defined by Mr. Wallace, uprose from the ocean since the last emergence of Hindostan?

The isothermal of 68°, however, or any other division of tropical from temperate vegetation, dips far south in the interior; while again, the extremes of temperature are greater and the rainfalls less, both beyond all comparison, inland than upon the coast. There are not such barriers on the west to divide the great interior from the west-coast country, and therefore many desert types—such as portulacs, solani, euphorbiæ, cassiæ—are common to both the northern, the interior, and to the western botanical provinces, albeit the south-western is most distinctly marked from the south-eastern. It is a poorer soil and a drier climate, but is richer in variety; it is in the same latitude, only 1700 miles distant, yet very dissimilar; for it has 600 species not to be found in the adjoining eastern temperate region. The western has 130 species of acacias, and half as many of Grevillias,

besides many of melaleucas and of other genera, not found in the eastern province; while the latter has 100 melaleucas, nearly as many acacias, with hakias and other species of its own. The poorer soils, with their saline ingredients and radiating surfaces, have tempted a desert type nearer the coast in the western than in the eastern portion of Southern Australia, besides giving this greater variety to the flora; yet they show such resemblance to African vegetation that Baron Müeller suggested that the antecedents of the peculiar Australian flora may have inhabited an area to the westward of the present continent, and that the curious analogies which this flora presents with that of South Africa, and which are most conspicuous in South-western Australia, may be connected with such a prior state of things.

The richest climates, the richest soils, the finest forests and plains, and the most pleasing landscapes, are to be found in Eastern Australia. Here are to be found, in the deep valleys of ranges which drain the clouds from southern breezes, the only noble forests; in the eastern exposures, both warm and temperate and moist, the loveliest glens and slopes; and on the shores under the tropical heights, the most luxuriant vegetation. In Victoria and in Gipp's Land glens, the gaunt eucalypti hide their nakedness in their crowded proximity; they tower to heights of upwards of 400 feet, and challenge California in their gigantic length of stem. Nor do they leave a bare surface in their shade, but shelter a thicket of mimosas and ferns. High up the heights and upon the snowy mountains, upon impassable precipices and on the edges of morasses, these giants flourish with a height, a foliage,

and in number unequalled elsewhere. The Silurian ridges are generally timbered to their tops, the glens more densely than the summits, falling in gentle slopes of open forest, east to the sea, and westward to the basaltic downs of the inland slopes.

Again, upon the sandstone tables, as at Sydney and west of it, another feature is met. Here the sterility of the soil is not altogether mitigated by the climate, but is contrasted with exceptional spots of beauty. The sandstone country is everywhere 'a wilderness of sterility and freestone quarries.' But in warm sheltered nooks, with an eastern exposure, a great variety and luxuriance of undergrowth is sometimes found. The striking feature of their flat summits, as at Sydney, is a sandy soil which grass cannot bind, and which little air reaches for a thicket of shrubs. These shrubs are heath-like epacrids, banksias, hakias, &c. They are dark, hard, and stunted-looking, anything but fresh and luxuriant in appearance—dull unbending lines and dead colours—a grotesque protean vegetation. The landscape is relieved by the formation of the country, where plateaux often fall in abrupt cliffs, kept bare and crumbling by the constant action of the atmosphere upon the open freestone; and where they fall in white breaks amongst masses of foliage; or better, where both cliffs and thickets fall suddenly into basins of blue placid water, we have such exquisite pieces of wood and water scenery as Sydney Harbour. Or, in the glens of the Blue Mountains, at their eastern bases, we may find in a shallow alluvial valley a bower of gaudy flowers and 50 different ferns. Above, the rigid spikes and spears of the xanthorea crown the cliffs; and far up the defiles torrents

fall over precipices into bottomless caldrons, to disappear under a thousand feet of sandstone strata in unknown subterranean channels.

Upon the banks of eastern rivers, sometimes far south of the tropic, but generally north, we find jungles of impenetrable shade and the richest beauty. Palms extend farther south than Sydney, cedars are common from that north, and upon the coasts of northern Queensland a purely tropical luxuriance is found in spots upon every river. Perhaps the most tropical scenes are to be found in the valleys of Rockingham Bay, and upon the slopes of the Bellenden Ker Ranges. Here we have towering mountains very near the tropical sea, a great rainfall in a warm climate; here we have precipitous declines coastwise, consequently rich valleys upon the seaboard; we have the forms and luxuriance of a purely tropical vegetation. Here jungles grow which cannot be traversed except behind the axe; where mighty cedars are mixed with the bombyx, the figs, and the bamboos of the east; vines and lanas bind the foliage together in heavy clustering masses, while graceful feathery palms tower singly above all, and the darkly-shaded undergrowth is rich in orchids and ferns and calladiums. Here the deadly nettle-tree paralyses the traveller's horse, and the jungle is broken by the steaming rank luxuriance of the wide swamps. The scene is Indian in its type and Brazilian in its beauty; Australian only in its grand exception to the whole arid continent.

West of the great cordillera, north and south, upon all its inland slopes, beautiful park-like vistas form the downs of the sheep-farmer. Level sometimes, but generally undulating, they stretch in grassy waves to green shores of

luxuriant jungle; not to an open scattered forest of gaunt eucalypti so often as to thickets of acacias, relieved by trees of the bauhinia, the cedar, and other deciduous families. Savannahs and rolling ridges of grassy uplands, alternated with belts and patches of rich shady thickets, bounded by forests, and enclosed by ranges of angular fantastic volcanic peaks and barriers, make a landscape of great beauty not uncommon to the western slopes of the Cordillera. It only lacks one feature to make a perfect picture. It has wood and plain and mountain, but wants the one other important factor, the same one want of the country—there is no water in the view.

But sometimes the watershed is not broken; sometimes it stretches over a wide field of sandstone plateau before it falls in western drainage. Sometimes, in the north, wide sterile tracts extend, between the eastern and the inland waters, of flat monotonous tablelands; with imperceptible and inexplicable drainage; with lakes having no outlet but by evaporation; with shallow wide marshes in wet seasons, and absolute aridity at other times; with a scant clothing of the hardiest of eucalypti and the most forbiding of grasses—of ironbark and triodea spinifex. Or the division of the great water systems, as between north and south at the head of the Thomson, may be in the one tract of unbroken downs.

Inland, the climate, nor the soil, nor the vegetation, nor the landscape is so varied. Desert is the character of all. It may be sandy, or stony, or a flooded field of desolation; but it has the same rainless dewless heaven, the same saliferous unkind soil, the same saline herbage and struggling acacias, the same weary look—flat, stale, and

unprofitable. Sturt followed up an Eyre water towards the centre of the continent until he lost it at a barrier of sand ridges, extending in the north from east to west. The banks supported a few bauhinias and acacias, the bed of the creek was dry, and the withered reeds and grass incrusted with salt. The fuel was spinifex grass and samphire bushes. South of that is a stony desert, and south again another sandy wilderness; sometimes flat, sometimes in unstable ridges. There is one oasis at Cooper's Creek, and between that again and the Darling waters another sterile waterless tract intervenes; the natives have wells, but so scarce is water in this tract of country, that it is reported there are many savages in this district who cannot swim. North of all this there is a desolation of bare flats, of gaping cracked fields, and a network of river channels,—which is sometimes changed into a desolation of waters, hundreds of miles in extent. And all supports a scant vegetation, scant in quantity and in variety. The farther inland, the drier the climate and the poorer the vegetable production; the nearer the coast, the more grass and timber, and the richer variety of both. It is the same with sentient life: drought limits everything.

There is no equal tract of land supports so little animal life as Australia. When graziers exterminate the only predacious animal, improve the grass, and, above all, keep down bush fires—when they preserve kangaroos carefully, they may increase to numbers most surprising to the colonist; but even then they bear no comparison to the herds of antelope and buffalo common to Africa and to America. In a state of nature, in the bush simple, kangaroos are few and scattered. There are no animals in the

country which gather into herds, and there are no migratory rodents. The feed is too scant to keep animals permanently in large herds, and the seasons are too uncertain for them to learn the habit of annual migration. Even civilised man cannot graze the country to any extent without making reservoirs and wells of water, and then leaving unoccupied many intervening tracts of mountain and plain; while he does not succeed in moving his herds in dry seasons without great losses. The more inland, the less water and the less feed, so the fewer rodents. The nearer the coast, the more rain and rivers, and grassy slopes and plains, so there we find more animals. In the mountains, and thicker forest and jungles of the coast country, we have most of the game of the whole continent; and the only small game worthy of the sportsman's notice are the wildfowl of the rivers and lagoons near the seaboard. The scantiness of game is shown by the rarity of the carnivora. The native dog is the only one beast of prey in the country, except insignificant vermin. Nor must he be accused of keeping down the number of other animals; he kills some; but the climate keeps their numbers down, and so, indirectly, his numbers are kept low also; while, directly, both are limited, particularly the dog, by floods and fires—that is, by climate. Upon the finest rivers—on the Murray, Murrumbidgie, Hunter, Clarence, Fitzroy, or Burdekin—upon the richest downs of favoured Victoria, and the western slopes of New South Wales, there is more life than upon the inland plains. More kangaroos of all varieties feed the grasses down, and in the ranges and thickets are more dogs to prey upon them; inland, fewer kangaroos can survive the long

droughts, and still fewer dogs can travel from one drying-up watering-place to another.

It is noticeable that animal life is more vigorous in the southern and cooler regions than in the milder and warmer north. The kangaroos are not only more numerous in Victoria generally than in any other equal tract of the country, before or after settlement, but they attain greater size. And if never in Australia, yet in the very near but colder island of Tasmania, there are carnivorous animals of strength and ferocity equal to the dog—not foreign like him, but of the indigenous marsupial type. In the human race this is more remarkable still. The strongest tribes and the ablest men ever met by pioneer settlers were upon the Murrumbidgie and Murray, the finest rivers in the country. Here they were compelled by a climate more rigorous, or less mild, than that of the north or west, to take some care of the morrow, to clothe themselves better against the weather, and to gather the food their rivers brought them in finer weirs and nets than are known to any other tribes.

Human life, like every other aboriginal feature, is limited by the arid interior, in numbers and character and vigour. The less game, the fewer natives; and without water, neither. Throughout central Australia natives wander hundreds of miles, from one well in sandhills to another, from one dried-up waterhole to another, brackish and salt. One small party is enough for any one camp, and the camps are too far apart for any gathering or increase into what can be called a tribe. They are here a miserable weak race; struggling hard for existence in dry seasons, and camping listlessly upon the lakes and lagoons

and marshes of wet seasons. They eat more rats than kangaroos in the plains, and more frogs than fish on the river banks; but upon the downs, or inland slopes of the margin of the great plain, they are better off and are better men. They have some constant streams, some game in any season; and if the seasons limit their numbers, dearth and famine are rarely before them. On the coast country they are most numerous. The greatest friend to the savage is the sea; all lands, however rich the interior may be in game, carry more population on the seaboard than in any other tract. And the estimates of travellers, particularly navigators, as to the population of islands, is almost invariably exaggerated, for the reason that they see upon the shores an excessive proportion, perhaps nearly all, of the whole people.

The distribution of the indigenous population is illustrated by the number of dialects. In the interior one dialect is known over an immense area. It is spoken from the Murray, or at least the lower Darling, far up into Queensland, and westward into South Australia; it is said to be a common language to many inland tribes, who may have each separate dialects of their own; and it will assist the traveller over a thousand miles of country. But upon the eastern margin, different from all the other edges of the great plain; where many rivers drain the rich western slopes of the Cordillera, most of the rivers have a separate tribe and a distinct dialect. In the interior the tribes or families may meet; they will rarely fight; their necessity compels them to communicate with each other. But upon the better country and the more bounteous rivers they may meet, with their waters, but not to join; they

may fight, but they are not compelled to have a common language. And upon the coast so numerous are the tribes and dialects, particularly in the tropics, that a ship-wrecked seaman, who had lived seventeen years with the natives upon the Queensland coast before it was settled, could not, when he returned to civilisation, interpret for tribes a hundred miles distant from his recent home. He said the tribe he lived with never went beyond a radius of fifty or sixty miles. Yet every headland and bay and island shows signs of native life. There are many people on the coasts, particularly in the tropical islands, but so very few in the interior that it might be called almost uninhabited. And this paucity of population contrasts strangely with other lands. No equal tract of country in almost any climate supports so few men. The so-called deserts of Africa are richer in all life, vegetable, animal, and human, beyond all comparison; and how widely different was America when first opened up! The first explorers, or as they called themselves, the conquerors, of Florida, came to a great river in the interior; they found countless villages along both banks, at short distances apart; some camps could muster a thousand warriors; and this dense population lived by the chase and by the river, with the little maize their women grew. Well might the pioneers, baffled in their search for gold and silver, reflect on their return that the land and the climate of this Father of Rivers was a greater treasure than the plunder they had hoped for.

But the inferiority of the aboriginal race is shown more by its extremely low standard of intellect than by its numerical weakness. The race is without vigour, much

less ferocity or war-like energy; it is listless, by no means aggressive; it is held down by the continual struggle with nature, and only survives as a wretched specimen of humanity. Some races are conquered or spoilt by the luxuriant kindness of nature, as in tropical gardens; and others are overcome in the fight against starvation, as in the polar wastes. But here we have a race first enervated by a mild temperate climate, which has no winter nor a regularity of season, and then subjected to uncertain extremes of drought and famine. The coldest season in Australia, except upon the highest southern ranges, cannot be called a winter; it requires no provision to be made against it, so the people have no thought of to-morrow; they are utterly improvident. The driest and the wettest season cannot be foretold; they occur at ever-varying intervals, not of months, but of years; they cannot be anticipated, so the people are careless, listless, and hopeless in calamity. The struggles required to survive are frequent and severe, but the mild climate never braces her children for that struggle. Intellectually, as physically, the race is poor and weak. Ignorant beyond comparison, they are abjectly subject to terror, yet have not acquired a mythology, nor any one general superstition. In the darkest forest, beneath the highest mountains, by the dreary silent lakes of the southern highlands, they have retained the tradition of some animal, probably an inland seal, which is now extinct. They have in their ignorance learned to dread the reappearance of this animal, and have some common feeling approaching a superstition regarding it. White men came, and spoke of a devil. Now the step is short from their 'banyip' to this 'devil;' so

they learnt a superstition. But it is not indigenous. Where there is no tradition of an extinct animal, as in the north of the continent, there is neither banyip nor devil; few aboriginals have any such idea, even from white men. It has been stated that they have an idea of the Supreme Being and of the transmigration of souls; but he who has been conversant with untutored 'black-fellows,' he who has spent weeks and months with his black boy, riding alongside daily, and camping at the same fire nightly, and who has thoroughly surveyed that savage's mental range, knows well that there is not only no glimmering of such conceptions in that mind, but that these are quite beyond the grasp of such a weak intelligence.

All life is thus limited by the aridity and uncertainty of the climate. There is little rain over the great bulk of the continent; there is little vegetation, little animal life, only one beast of prey, and few, very few, human creatures. But the climate is not only niggardly on the whole, it is a most capricious tyrant, destroying at uncertain intervals what it has reared in a few milder seasons. No result is gained by a rich growth in the forest, if a drought comes and withers up all young or weak life. And the interior, which has so many features in common, is so extensive in proportion to the whole, that it impresses its characteristics upon every part of the country. It reduces tropical forests to exceptional patches in sheltered nooks; it encourages one type of animal everywhere, and has forbidden the immigration of the teeming populations of the adjacent tropical archipelago to its barren shores. Floods destroy some life, they may drown some young animals, but the increased production of all life which follows them

more than makes up any decrease. Drought, dry seasons, and, more than all—that deadliest weapon of the tyrant—the bush-fire, reduces and selects the life of the country.

During the long dreary months of dry heat, without rain or dew, those broad-leaved trees and herbs, which expose a large evaporating surface and require a large supply of moisture, could not survive; only the hard, thick, narrow leaves of the Australian forest, glistening like steel when they cannot hold their edges to the glaring sun, come out of the trial. On the plains and downs the acacias cluster in thickets as if to shelter one another, or singly droop their scant foliage gracefully over the parched waste. On the flats and meadows the giant eucalypti rear gaunt stems and bare boughs. The hills are timbered, but shadeless; and even in the beds of the watercourses the melaleuca is ragged and wretched-looking. All have hard, rigid, narrow leaves, and few of those. The watercourses are drying up, and the animals struggle on from one death to another. The marsupials can live for long without water, but not so the dog. He, the only foreigner of the land, cannot live without frequent water; he cannot therefore always accomplish the journey from one water to another, as the holes dry up; and he cannot remove his young to water when it is an imperative necessity. No animals are so adapted to such a trial as the marsupials; and they survive. The trees having the smallest amount of foliage, and not dependent upon a regularly returning spring to reinvigorate them—an indeciduous shadeless forest—is another result.

Then the grass is withered white, it is dry and warm

night and day, and one spark of fire sets all the landscape in a blaze. This widens over the plain, gathers air in its combustion, and becomes a hurricane of fire. It sweeps the plains, storms the mountains, and rushes irresistible over watercourses, to lick up withered grass on opposite banks. The seedlings are lost, the saplings destroyed, the whole forest scorched, and every decayed giant of the wood is wreathed Laocoon-like in fire—scattering from his yielding limbs flakes and sparks on every side, from which fires spring hydra-like over the withered sward—to rise, to roar and rush on, and scale in rapid springs the grassy ranges. In the forest, it spares only the giant eucalypti, which have stems towering 30 feet without a limb, only scorching the smooth bark, which is shed and renewed annually; upon the downs, it spares only—as it lingers and lulls in the low grass—those hardy acacias which rise in iron-like columns beneath their thin graceful tresses; and upon the mountain, it spares only those eucalypti which have their veteran stems bound in an impenetrable coat of 'iron-bark.' All the land is cleared except these selected trees. Hence the open forest of Australia; hence grazing and squatters and land-laws; hence wool and meat-growing are before everything else.

The jungles or 'scrubs' are not touched, for they have not grass nor sufficient tinder to lead the fire into their masses; and when the country is stocked, and bush-fires carefully kept down by man, then thickets increase upon every side. If any tract be for some years free from the visitation, then the forest will thicken; and the trees which have the most inflammable bark, like 'stringy-bark' and 'peppermint trees,' grow in poor ground, and grow

thickly, where fires rarely penetrate, and then only to blast the whole forest.

The fire-storm sweeps over the land, and reduces the animal kingdom; all is subject. The smaller insects and animals in their struggles are followed by flocks of birds, who snatch their prey from the flames. The small game and reptiles flee before destruction, or perish in logs and other deceptive lurking-places; and the large rodents, who survive instant destruction, have to continue the struggle for existence—without any pasture on the plain, young or old—with only the hard foliage of the thickets. Desolation is doubly desolate; the desert is burnt black and lifeless. Life has almost to begin again in the lower vegetable kingdom, and even animals lose their young. The plain depends upon the deepest roots, and the hardest of the barbed and needle-pointed grass seeds buried in the soil, to grow another crop. The forest has lost its saplings, and must plant again; and the struggle is hardest and longest with the animals. The dog, far from shelter, cannot circumvent that furious sea of fire; he cannot bound over the walls of flame and fields of cinders; nor can he remove his young, nor can they escape. If his lair is in a log upon the plain, or by the last waterhole in the valley, his life is almost worthless. The marsupial has a better chance than any other type of animal, for she can bound far over flames and scorching ground, and find a way through many fires. Her young have a much better chance; for, placed securely in its mother's pouch, it is carried high over the burning ground, over death and extermination, to live, or at least to continue the struggle. The marsupials are the selected survivors; the one type

of all the country. The dog has no enemy but the climate; he is not subject to any other beast of the field, and he has many varieties of victims utterly defenceless against his attacks, but is not the master. He would increase and gather into packs, like wolves and hyenas, under another climate, with the present natural stock of the country; yet he is a solitary exceptional stranger in the land. The marsupials have been selected, with hard bare trees, and all the peculiar types of the country, in that decisive struggle. And it may be conjectured that if the superior types of animals introduced by the colonists were left to continue the struggle alone, were the country at once depopulated, considering the great degeneration these animals immediately undergo if neglected, they would disappear from the climate of marsupials in a few thousand years.

CHAPTER IV.

Natural capabilities of the country for settlement—Early colonisation—Agriculture and grazing—Squatting—Extension of settlements by squatting—Riverina—Central Australia—Northern Queensland, settlement and results.

IT is to the peculiar dryness of the climate, in a temperate zone, that the great salubrity of the Australian continent is owing; and it is to this extreme healthiness to man and beast that stock-breeding traces its success. No mere fattening quality in herbage, nor peculiar action of climate upon wool, can be of any avail, if the constitution of the animal is not sound. The best fattening pastures and finest wool districts have attained their celebrity upon acclimatised stock; and if at first sight improbable, it is nevertheless the experience of breeders upon the finest fattening country, that the stock bred there are more easily fattened for market than animals introduced from other districts. The success too of the grazier does not depend so much upon fine animals as upon increase; so that constitution and general health of the animal are of the first importance. Next, is the mildness of the winter. During no period of the severest season is it necessary to house the stock of the Australian grazier, nor to supply by agriculture more food than nature gives in the bush; and if by overstocking any limit may be surpassed, in attaining their present number the sheep

and cattle of the country have been almost quite unassisted by cultivation of the soil.

Many countries have richer pastures, and some more healthy climates also, for stock-raising; but Australia combines with these advantages a perfect immunity from all animals of prey. Neither feline, nor canine, nor reptilean enemy is strong enough, in individuals or in numbers, to touch the cattle; and a very little care by man is required to protect the most helpless of all domestic animals from its one vagabond foe. Fortunately for the grazier, there is only one large predacious animal; more fortunately for all, there are few savages, and these of the most inferior type of the human family. Under no other circumstances than these—than the dry salubrity of the climate, and the absence of natural enemies—could the peculiar industry of Australia have acquired its height and power. Had there been more moisture, greater rainfalls, greater regularity of seasons, and more surface water, there would have been more vegetation and more agriculture; fewer bush-fires, and no open forest. Indian jungle or dark American forest would have left a few plains, maintaining, in all probability, a stronger kingdom of rodents, which, again, would sustain powerful masters in beasts of prey and human lords of all.

But this was not learnt by man until nature had long and repeatedly taught the lesson. Man came to this continent as he did to the Americas, and to all new lands since the Middle Ages, not to lead a pastoral life, but to form an agricultural settlement. He clung here to agriculture as the one only and indispensable study for a colonist, and has rather despised at many times the dictates of physical laws. The first care of the pioneers of the settle-

ments was to grow wheat; for at that time it was considered essential to a state to be equal to the growing of its own food; as wars were wide and general, commerce was weak and slow and despised; as there was no Chilian nor Californian flour to be had then, and Europe was six months distant. It was determined to grow grain for themselves at any cost, and convict labour and simple prison despotism did what they could, yet famines were encountered; man did all he could, but nature was too capricious in the one respect of rain to insure any result in any soil; and the success of the first agriculture of the settlement is shown by the vast government grain-stores which were made in Sydney Harbour, to garner the good harvests and provide against an always possible famine.

At a very early period however, stock were found to thrive. Some sheep which came in convict ships increased, others from India were crossed with them; and in about twenty years from their introduction, or forty years from the first landing of colonists, the sheep stock numbered 90,000 head. About that time there were, recently imported and increased, a flock of some 300 merino sheep. This small flock has since increased and multiplied, outnumbered and swallowed up all former breeds, and spread over the whole Australian islands, to the number of nearly 70,000,000. They have become the pioneers of civilisation, the absolute masters of the forest, and the foundation of an empire. Contemporary with their rise has been that of the English cattle. They led the way to squatters, by escaping, as a small valuable herd kept by government for meat, and discovering farther inland finer pasture than

was then known. The Indian buffalo gave way to the Durham and Hereford ox, as the English and many other sheep receded before the increase of the merino; and that ox and that sheep have carried on the settlement of Australia so far.

The first graziers were not, like the later squatters, stock-breeders only. They were arable farmers who owned much live stock. They went out and occupied the wilderness with many servants and a choice herd or flock; they crept out gradually and carefully, to grow grain for themselves in any case, and secondly to increase their herds if it was possible. The governors did not want wool or tallow; they wanted food for their people and prisoners, and above all, they wished those convicts taken off their hands and employed. The convict was the one powerful engine of labour, and a dangerous engine he often was. The foe of the first settler was not the beast of the forest, nor the native savage, but the labourer whom he brought with him, who often ran wild, and became that worst of all savages, the civilised ruffian, or colonial bush-ranger. To encourage this system, land was freely given to any bold settler who would go out into the wilderness, and take so many thieves and ruffians off the hands of the gaolers; in proportion as the settler could employ labour, he obtained it in prisoners; and this custom, besides the risk of weakness amid such numbers of foes to society, compelled the settlers to keep together more; so that grazing was limited by the greater demand for grain, and by the confined areas of pasture it was safe to hold.

Out-settlements were defended by military; they had dépôts of prisoners, and all the methods and customs of

convict establishments. They were always upon fertile tracts of country, to grow grain before all things, and they soon became settled to the extent of agricultural land. The farming settlers grazed the adjoining poorer lands, and these very soon became fully stocked. Then it became necessary to send the stock farther out; boundless finer and finer pastures were discovered more inland, and 'stations' of sheep and cattle came into existence. The limitless country was open to any settlement for any purpose in those days; the bread-producer was welcome to the land and to many servants, if he would fully employ and take charge of this dangerous prison labour; and the grazier was welcome to the interior, upon payment of a nominal fee, without limit of area or stock, without let or hindrance in any direction. Under the latter system has arisen squatting. After the few first out-settlements were made, it was found that stock were good pioneers; they required less labour and gave no difficulty in moving out, while no enemy opposed their advance in any direction.

The merino sheep increased upon high tablelands even upon coast country, and the cattle fattened anywhere. Even the desert-like interior, which seemed to have no vegetation at many times and little at the best, proved rich pasture, and fattened the European animals more quickly than their native meadows; for stock knew no winter. They rarely fell off, so as to lose in winter what they gained in summer; in the greater warmth of this interior they were always fat, and in the dry air always healthy. Hence it became apparent that stock should precede grain as the industry of a district, and the occupation of new country came to signify the stocking of it, at very wide

intervals, with cattle and sheep. Next, the success of stock everywhere led to their being taken out in any direction, and squatting became a separate industry, independent of farming or prison discipline, independent at length of near markets—for the purposes only of growing wool, and of increasing herds to supply an increasing population. Next, the stock outgrew the population, became far more than anticipated; wool maintained a value everywhere, but stock could give no other return; so that sheep-farming soon outgrew itself, and cattle in the far interior became neglected and degenerated.

There have been successive leaps and pauses of progress, not a steady march, in the settlement of this country. The advances have been in waves, rolling each beyond the other, with greater or less volume and force; receding in slight indraughts after each bound, but always with a flowing tide. A few paces may be lost after each dash, a pause will occur at intervals, but ever and again another wave of progress will break upon the land, each wave beyond the last. Whenever the main industry of stock-breeding has been at its lowest, from a continuation of bad seasons, as droughts, or sometimes from a sudden change in the ratio of demand and supply, then it has sprung up again, and taken the country on in still more rapid strides. Each time of adversity has left its legacy of care and foresight, teaching cheaper methods of production or new means of utilising produce. The first check to squatting was tided over by the adoption of the system of 'boiling down' sheep and cattle for their tallow, and the last check terminated by teaching the advantages of superior wool and of fences instead of shepherds; while

during its history the staple of the country has maintained a steady increase in its value, and been grown with continued improvement in its quality.

One peculiar advantage that stock have always held over any form of cultivation is that of their general adaptation to every change which they have been subjected to in the country. Sheep may have at length been taken too far into the tropics, but only within the last few years; everywhere the merino ewe and the English cow have thriven and increased, while everywhere agriculture has been an experiment, and generally at first a failure. It has been the success of squatting in any district that has brought the cultivator after him; even gold has not been as good a pioneer. For the metals give no indication of soil and climate; but where the grazier has had great increase, where he fattens much stock upon small area, the farmer may be sure there are comparatively good seasons and rich soils. Victoria was occupied by stock, taken a journey of some difficulty in those days, and as a settlement it was a success from the first. Before gold or population, that tract of country was held to be of great value and of the most promising prospect; it was easily taken up by settlers; for, they said, here is rich land always grassed, capable of carrying enormous stock, sound and healthy, and close to the sea and shipping. Here the good country had a port at its very edge, and frequent sea rains throughout the year; it was not like former experiences, where the settler had to travel inland, to turn his back upon market and shipping port and rains, and to seek the good country upon the western slopes of the main range; nor has any tract of country been opened

so favourable, either to squatter or to farmer, since the western district of Victoria was taken up.

The mere change of pasture has always proved beneficial to stock. Sheep particularly are improved in constitutional vigour by a complete change of pasture; and frequently country, that has since been found most unsuitable to sheep, was at first proved to be healthy in climate and nutritious in feed; and for years they may do well on new country, increase and keep fat, and only begin to deteriorate or decrease several years after their arrival. Generally moisture has been the enemy of the sheep. Under careful management he will thrive in a much wetter climate than Australia, but he will not pay except when kept in the simplest and least-expensive manner, so that it has hitherto been found more profitable to keep sheep in the more suitable dry climates than to be at any cost to protect them from exposure. The commonest diseases of sheep are those arising from colds and diseases in their feet; both are the result of excessive wet upon poor soils in the first place, and of their management in the next; for the old system of having shepherds to drive sheep in dense flocks some miles daily, and then to crowd them into a dirty wet fold all night, superinduced those attacks of catarrh and foot-rot which have killed such numbers of coast sheep. After the beneficial effects of the change of climate have passed off—when the bitter herbs and grasses begin to get scarcer under the continued grazing—then the animal becomes weaker and more liable to disease. They do not increase so well upon the eastern wetter slopes of the Cordillera after the first few years; they show many signs of deterioration, and generally give place to cattle.

These slopes are of cold clay soils very often, under a greater rainfall. It is upon the western slopes, where there is a drier climate, and generally better feed upon better soils, that the most of wool is grown—upon an intermediate belt of country, between the coast country of most rain and the inland plain which has little or none.

The comparative unsuitability of those lands exposed to the eastern ocean is most marked in the northern country. In Queensland, the country is often spoken of as sheep or cattle country, and these terms are generally synonymous with inland or seaboard country. The terms imply for sheep a dry climate, short grasses; for cattle, any excess of grass and water; because the latter will thrive well in the swamps and floods of the tropical coasts, where sheep could not live; and because sheep have the choice of country, as being considered the more profitable stock. What is good for the one is also good for the other, but sheep will not thrive in the wetter climates. Then again, the expenses of working a station are always much greater in a new country, and with cattle than with sheep, so cattle are sometimes used as pioneers of sheep; they are taken farther inland, when the cost of labour and of carriage render wool-growing a precarious speculation; and although destined ultimately for wool, it has generally been found that it is safest, because least expensive, to occupy new country with cattle, in the first place at least.

In the earlier days, before gold was thought of, as herds of cattle increased beyond the capability of their pasturages, they used to be sent out to the nearest unoccupied good country. Thus the western streams of New

South Wales became stocked, and the country occupied. This system arose when cattle were decreasing in value, and when it was therefore indispensable to breed them at the least cost; so that these herds were inferior, often became wild and unmanageable, and only rose into value when the crowds of gold-diggers arrived and paid any price for meat. But these cattle proved how good all the interior was for stock, and convinced people that the land which seemed a desert was most fattening pasture; they discovered 'salt-bush,' and gave a character to the eastern portion of the great plain which, as Riverina, it has ever since held. This was the first of three great waves of settlement which swept over the country of late; the first over the inland plains between the settlements of New South Wales, Victoria, and South Australia; the second beyond these farther inland to the central basin; and the third northward. The first arose from the demand for meat made by the goldfields, the second from the success of the first—which was an experiment in what had been considered a desert—and from the demand for wool, and the third arose from the maintained and increasing value of all squatting property, particularly of pastures.

Riverina was thus all eagerly taken up along every known watercourse; it became the fattening ground for Victoria meat and the outlet for squatting enterprise. Believed at first to be a desert, next considered only available along river courses, and known to be subject to severe droughts and floods, this district has overcome all prejudices, and even contradicted history. One of the first surveyors of New South Wales, who explored, by orders from home, these tributaries of the Darling, reported that

he found a flood like an inland sea down the Lachlan, and only could see the tops of the river timber. Certain it is that for more than thirty years this spot has been occupied safely by men and stock, and houses have stood for a generation high and dry upon the banks which were then under twenty feet of water.

The occupation of Riverina was a slower, surer, and more successful effort of settlement than any later. Much of the Murrumbidgie and Murray was stocked before the gold discoveries, and when the rest of the Riverina country was taken up, the pioneers were not always going beyond all settlement, nor beyond experience and help. They were occupying the vacant space between western New South Wales and northern Victoria; they did everything more cautiously than the northern pioneers. A settler in Riverina who took up new country in those days was always a man of experience in stock under colonial systems of management; he was probably the overseer of an older squatter in the first settlements; he started with cheap cattle or sheep, which, even in the gold-fever, rarely cost more than 10*s.* or 12*s.* per head; the stock he knew, he took men of more or less experience, and he started from an old and complete station as a base. He travelled a short journey of not more than 200 or 300 miles, through the best of pastures, without any difficulty from unknown ranges or rivers. He arrived upon his run, for which he had paid little premium, if any; he obtained a wide extent of land, and he put his sheep upon that run for probably not more than 15*s.* or at the utmost 20*s.* per head. Then he had a base within a few days' ride, from which he could draw assistance in labour or carriage; he had little to dread from

blacks who had met settlers many years before him; he had no excessive difficulty in getting his wool to port, and he had a market of easy access for any stock.

It was very different with the recent pioneers of northern Queensland. They were sometimes men of no experience in stock-breeding, often of no knowledge of the country, who went out, beyond all traditional limits of climate, into doubt, difficulty, and danger. The squatter who took up new country in the north had probably two years' experience on a model establishment; he bought inferior sheep at unreasonable prices; he hired any man he could possibly get to go; he paid high premiums for country, high wages to get his stock there, and high prices for every item of his outfit. He settled in a new country, in an untried climate, at a cost of say forty shillings per sheep, without any market for stock, with most difficult and uncertain communication to his shipping port.

The success of Riverina, however, did not end with the occupation of the country, as at first known. At that time only the water was secured, and as little country as the land regulations permitted; for the water commanded the use of the land. But runs became fully stocked, prices kept up, and fattening country so near markets became extremely valuable. And as immense tracts of the finest pasture lay between the courses of permanent water, which only supplied the stock upon their frontages, this back-country could only be availed of by an artificial supply of water; so dams and wells were made. Thus all that district was grazed, every acre of grass or herbage was fed, and Riverina was stocked to the

utmost. Again the stock increased, wool and meat kept up in value, no more profitable industry was known in the country; so again the squatters went out. The value of Riverina and the interior having become well known as fattening ground, and explorers having called attention to the central region of the continent, an exodus from the colonies of South Australia and New South Wales set out, north and west, towards the great basin. This region is more desert-like than any previously encountered; but the scant feed was often saliferous, and always fattening; and although the rainfall was an unknown quantity, and the surface water never permanent, dams and wells were tried with some success. To this country sheep were taken across hundreds of miles of desert, travelling without water long journeys, the shepherds being guided by natives to their wells, and settling permanently at mere shallow pools, where the pasture was a little more abundant than usual. In this exodus, the first care of the settlers of these new stations was to sink wells and make dams; frequently whole establishments—every man and horse, and even sheep—were watered at one well for months consecutively. The stock did well, but the drawbacks were overwhelming. Thousands sterling were sunk in forming stations, by storing water principally; there was no room for a large number of sheep to be kept together; the runs were small, and the area required to support that number was enormous, so scant was the feed. But these, the first experienced, turned out to be exceptionally good seasons; for the country had not been better explored, the settlers had learnt nothing new, the climate was as Stuart and other early pioneers had said—only this last

experience of explorers and squatters had been of exceptionally wet seasons.

Then the change came. The water in the shallow lakes dried, sheets of water 30 and 40 miles in circumference vanished, wells gave in, the grass altogether disappeared, and stock began to die. With the first adverse turn the retreat began. The wells and dams were abandoned as they dried up, sheep and cattle were started before they became too poor, or, if not, they died. Some settlers went out in different directions, searching for more food and water, for the same drought was beginning to be felt in the old settlements; but most preferred returning to a country they knew, no matter how difficult. Those who went farther out generally lost their all, and those who tried to retrace their steps rarely succeeded with most of their stock. They found the road drying up before them, the stages longer from water to water, the feed altogether gone, and at last communication, even on horseback, became almost impossible. Cattle left upon the country lived while it was possible, after which their instincts frequently guided them to water—for cattle, having been left to roam by themselves for generations, have the full use of those faculties which wild animals possess. Sheep are altogether dependent upon man; they are utterly helpless by themselves, and with every care, suffer severely in privations. So that of all the sheep taken out to this country north of Adelaide, the greater portion perished within four years of their departure; some upon their runs, but most in the attempt to return. A few who survived the drought, by continual exploring of nooks and neglected portions of country, and arduous

driving of perishing stock from one camp to another, only escaped the one to be destroyed by the other terror. Floods set in abruptly as this drought ended. They swept over lakes and creeks and plains, rushing where no sign of a watermark had ever been seen, and submerging camps and stations. There were some who had survived the drought without loss, who had undergone years of privation and fortitude, who had spent enterprise and energy beyond belief. who had taxed all their resources, physical and mental, mcrtgaged their health and wealth; who had done all, and successfully; who had held their own until the drought was over—but now the flood ruined them. Before they were well sure the weather had broken, the wide waste of waters, sweeping down from northern watersheds, covered the great basin, and swallowed up every hoof they possessed. .Thus ended this squatting rush. Some cattle hold country in the far interior, grazing upon their sand ridges when the lakes are full, and returning coastward to homesteads when the season threatens; but most of the sheep stations formed out there after the exploration of '60-'62 have been abandoned.

Simultaneously with this advance inland, another, greater and stronger, was made northward. No markets tempted pioneers to northern Queensland, but many other considerations. For many late years squatting had been in the ascendant. Sheep-farms had been yielding fortunes, north as well as south; the value of stock was doubled by their possessing a run; stations all over the country were being daily sold at 20*s*. per sheep, and yielding 20 and 30 per cent at that cost. Then again, all experience taught that the outside districts of to-day became populous set-

tlements in a few years, with mines and towns, possibly with unprecedented gold-fields; while this outside or new country had as fine pastures and rivers as any occupied. This last was the attraction northward. Every explorer confirmed the fact that there were noble rivers and magnificent tracts of downs, while wool-growing had proved very profitable as far north as it had been tried. At first there was difficulty in securing a lease of land; but as the colony of Queensland was severed from the old settlement, and started in the management of her own affairs, every facility was given to the rapid occupation of the country, and liberal terms offered to Crown tenants or squatters. The rush had begun for the purpose of securing this good country more than to grow wool; for runs or leases of large tracts of country from the Government were at a high premium. Hence the price of stock, and of labour, and at last of capital, to secure these runs, rapidly rose. For the investors were not all young men, lately from home or inexperienced in business, but were often old squatters, merchants, and the men most conversant with all colonial investments; and it is notorious that the rashest and most disastrous ventures in the north were made by the most experienced men of commerce in Sydney, assisted in details by the best squatting experience. Therefore it is not surprising that youths from home and from the old southern settlements, lucky Victorian tradesmen, idle professional men, and active squatters, all rushed to secure some of this new country. The young men who had, since the gold discoveries, come in such numbers from home to become squatters, and who were at this time acquiring some knowledge, in a desultory way, of

stock-breeding, here found a vent for their aspirations, their tastes, and their energies—a vent which had the sanction of experience and capital, without any limit to the field of selection or its future progress.

To any man of enterprise and energy, the inducements were most alluring. Here was a chance of selecting a home in a most promising country, of forming his station by his own hand after his own design, of then engaging in a congenial pursuit, and acquiring a rapid fortune. There was assurance of success commercially, the honour of leading civilisation one step more, and the unspoken charm of adventure; risk, danger, and difficulty were unknown and unheeded. And this prospect and this confidence led many through years of hardship, toil, and trouble, to loss of fortune, and sometimes loss of health. They carried out the design, but it was all based upon an unstable supposition. It was speculating in leases, not growing wool. It rested upon the value of country as pasture; it did not allow for a time coming when so much known pasture might be available to any, and for sale, that the value would be nil; and it did not rely upon the industry of wool-growing simply for its profits. The design was carried out, and, with the dreams of its creation, often reluctantly abandoned when all success was hopeless. But by these struggles of the northern pioneers between '58 and '68, although they personally were not benefited, immense strides were made in the settlement of the country, by which succeeding capital and labour will increase and multiply.

Such a career involved some years of roughing and of toil and difficulty encountered in few military cam-

paigns. Many settlers first explored the interior or the coasts for themselves, rather than pay the heavy prices current for even the information of good country. Some paid as much as 6*l.* or 8*l.* per square mile for unstocked runs, while others considered the time and risk saved to be cheap at that price; as to find a run for themselves took months of toil, and entailed extreme privations. It was necessary to go many hundred miles beyond any settlement to find good country unclaimed; all the bush was not good, nor even all available for any stock; unknown rivers and ranges and 'scrubs,' or dense jungles, had to be passed or traversed; the season might become very wet, and floods impede all progress, or very dry, and defeat the strongest expedition; and provisions had to be carried for the whole journey. A man cannot live by his gun in this forest unless he camps on large rivers, or travels very slowly in none but a well-watered country. So that this first effort to find a run generally employed a party of four or five men, with five or six horses each, for ten or twelve weeks.

These journeys are made generally along rivers, examining the back country from camps; or sometimes by crossing the country in a straight line, when it was possible to obtain water; but ranges always impeded them, and deflected their course. As a rule, the explorer had only to go inland far enough to be sure of sound country and rich pasture; but the farther inland he went the less water he found, and the greater would be the expense of working a station, so far from a shipping port and nucleus of labour; and many preferred inferior country nearer the coast, as the lands bordering the sea, within fifty miles

of it, had been proved to be more profitable for cattle-breeding than for sheep. Cattle thus held the coast country, and generally the far interior at first; sheep stocked the intermediate belt, the downs of the slopes of the main watershed, and even of the western side of the coast range, for there are two ranges in northern Queensland, both nearly parallel to the coast.

The country having been found, after months of daily riding through a trackless wilderness, and nightly sleeping by the camp fire—always upon short commons, and often with knocked-up horses and starvation—after this every haste had to be made to secure it. For to facilitate claims to country, an act had been passed making occupation the first condition of a lease, and the area was proportioned to the quantity of stock. All the breeders of stock south, particularly those nearest, sold any animals at their own price. Breeding stock became more valuable than fat; any young ewes sold at from 16*s.* to 20*s.*; while the price of wool having enhanced the value of all sheep, ewes were worth about as much per head as cattle. The demand for stock raised their value, and next the demand for labour absorbed all supply, so that every detail was badly and ruinously carried out: all to secure this country. The journey out, the driving of this stock, generally doubled their cost, and reduced their value; while it cost the pioneer some months more of toil and difficulty. He had sheep to drive over flooded rivers, drays of supplies to cross over precipitous ranges, routes to find and mark for hundreds of miles. He probably had to form a camp for months upon the road, to shear or lamb, before he could reach his destination; and thus spent probably more than

a year in exploring and driving, camping out all the time.

Nor did he arrive to find his troubles ended. He reached his country at length, having been delayed by floods, by losing and finding stock, by want of labour, or of working horses and bullocks; and arrived there, he was probably without supplies for more than a few months. Labour was dear, quite unfit for most of the work; active men of experience in the bush were paid 40*s*. per week and their food, and none less than 30*s*. All stock was dear, and carriage could not be hired. But he had no alternative; he must ride back to purchase more teams and supplies, and start them to the relief of his new station. Then his men took advantage of every difficulty to raise the value of their services; the most worthless made it a personal favour to work for any wage; and for months his stock were left to the careless charge of a small party, without necessary rations, while their privations in a perfectly new country brought on fevers and agues. So that it was not until after two years of incessant toil and hardship that he succeeded in forming his station, at a cost of say 40*s*. per sheep.

The next was the financial stage. The stock and station were now a marketable property; but no one, however sanguine, could expect a new station to pay its expenses the first year. The wool could not be sold for months, perhaps more than than twelve months, after it was shorn. No surplus stock for sale would accrue for years; and the wages and expenses were extremely heavy. For these reasons more capital was required. This was obtained first by selling some country, secured by the

stock, and thus transferable; or by selling a share of the property to a partner. But again the calculations were exceeded. The second nor the third season improved matters; the annual return in wool bore no comparison to the cost of raising it and increasing the sheep. The increase was good, but cost much; and the more increase, the more money was sunk in the concern. In the future they looked to cheaper labour, lower cost of carriage, and easier management, besides having surplus fat stock to sell. Even if the value of the run were still 20*s*. per head, perhaps 30*s*.; even if it would have paid all it cost, still it was not desirable to sell, for the future gave every promise of a fortune, if the settlers only persevered. Thus they mortgaged the property. So many mortgaged runs, in this rush to secure country, that money became dearer where it always was dear. No one counted the cost of money any more than they did that of sheep or of labour; in the hope of retaining the lease of a tract of land capital rose in price to 15 or 17 per cent per annum.

At last the tide turned. So many had the finest country to dispose of, while none seemed prosperous or confident, that the value of this country fell. Next it became quite unsaleable; no more kept rushing out to secure it, so fewer stock were required, and stock fell. But sheep and wool increasing, labour maintained its value. Every sheep was then herded and folded, and no man upon any station cost less than 70*l*. or 80*l*. per annum; carriage cost about 10*l*. per ton per 100 miles; droughts occurred, and thousands of stock perished; and the country generally did not come up to expectation; it belied its luxuriant appearance. In fine, while their numbers were slowly increasing, the cha-

racter of sheep did not improve; and, while every sheep kept cost from 4*s.* to as much, far inland, as 5*s.* per head, the fleece of that sheep did not realise more than 3*s.* 6*d.* or 4*s.* And most wool was twelve months or more in transit, which, at the value of money, represented about 20 per cent upon its price.

The crash came. In '68 wool fell nearly 50 per cent in price. There was at that moment hardly any profit in wool-growing upon inferior or remote runs, none upon borrowed capital. The value of runs as pastures was altogether gone, for sheep of themselves were not even a safe means of making money, they did not pay their way; and there was no prospect of selling stations. Squatting property fell 60 or 70 per cent in value. Sheep in the north did not often pay to keep, they only brought the value of the tallow their carcases contained, and even the improvements upon runs were of little or no value—one of the finest tracts of country, with dams and wells, and the sheep all in securely-fenced paddocks, was sold at 7*s.* per head—and many sheep were sold for less than the sum which the tallow in them actually realised. At this time the loans in northern Queensland were in millions sterling; the pioneers nearly all disappeared; the lenders of money lost heavily also; runs were abandoned, and sheep boiled down in hundreds of thousands.

And of the survivors—the holders of the property there now are almost invariably second or third men, who have bought in at a fraction of the actual cost of these stations, who under the revived state of affairs will probably succeed. Others again are men of large capital, who as mortgagees of—or as the principal moneyed owners in—runs,

have learnt by adversity to reduce the cost of production by fencing-in all pastures, and to improve the character of their wool by selection and crossing. These now make the stations pay, if not all they expected, yet some interest upon capital; but of the original settlers a very few remain, and of these a small proportion only can hope to work off their enormous accounts.

Such results are not encouraging to pioneers; but they are creditable to the country, and the success of the settlement is established. The losses which appeared imminent during the fall of wool are to a great extent wiped off by its rise; not more has been lost in the transfer of properties than has been acquired by other industries, like sugar-growing, which followed the pioneers; and a feat of colonisation has been achieved which has perhaps never been equalled. In the year 1858 the limits of settlement did not pass the tropic, being farther south the more inland. In 1862 they were up to the 20th parallel, with a width of 300 miles. In five years more they extended on the coast to the 17th parallel, and westward across Carpentaria, 800 miles from the east coast, down over the southern watershed of Carpentaria into the territory of the colony of South Australia. Here, in the space of ten years, an area equal to that of the German Empire was added to civilisation, without loss of life. It was not all peopled, wide tracts were and will be tenantless; but roads and free safe communication have been maintained throughout from the first; now telegraphs stretch over and beyond it all; and, from the first occupation, life and property have been as safe as in England. It was done without any violence, or robbery towards individuals or

communities; not by fanatics seeking to solve social problems, nor was it by ruffians reckless of life beyond the reach of law; it was the work of educated men; and it was only possible in the healthy climate and peaceful forest of Australia, under British law and customs.

CHAPTER V.

Old systems of sheep-farming—Newer methods—Fences—Reduced cost of producing wool—Breeding for different wools—Production of various localities—Effects of fencing—Prospects of wool-growers and settlers.

THE system of working both sheep and cattle have undergone great changes of late; both from altered circumstances and from new opinions. The old system of shepherding and folding sheep arose under very different views from those now accepted. The old settlers had good shepherds, or other men whom they might profitably teach anything, who could not leave at any moment, and were under absolute control. Nor was it dreamt that sheep could ever possibly be kept in the country running at large, so dangerous were the native dogs. Stock were valuable in those days, shepherds good and obtainable, and there were no overstocked runs. Not only was there a shepherd for every small flock of a thousand and often less, but his charge was shared with a hut-keeper, who was at once the shepherd's servant and a sheep-watch at night. Dogs were dreaded as if they were packs of wolves. But this hut-keeper went to sleep through his watch, and so he was gradually in time abolished. Next, the flocks were increased in size as they went inland from the forests to the more open downs and plains of the western slopes of New South Wales and to Victoria;

then as labour became scarcer, runs more valuable and more fully stocked, again the cost of working sheep had to be reduced.

Until within the last ten or twelve years, the systems of breeding were not studied nearly so generally. It was customary to study increase only, to get numbers; and the exceptional squatter, who was always improving his wool, was often considered to be devoting his time to a trifle: no wool was believed to be equal to large increase. Stations bred their own rams, and selected them on little or no principle. If any crossing occurred, it was with the nearest neighbour, not by any chance with the best adapted animals; and the advantages, immediate or future, of crossing or of selection, were never regarded. But runs becoming stocked compelled attention to this; if only a certain number of fleeces could be grown by a farmer, it became desirable to have these fleeces as good as possible; for it cost as much to keep a bad sheep as a good one. And the rapid increase of the stock of the country, while wool was still high, depressed the value of all sheep except the best wool-producers, while these, on gaining notice, rose immensely in value.

When wool became noticed, the preparation of it for market was next gone into. It was found that the market price was the test of value; and although the value of the fleece was the real question, yet so much notice was taken of a high price per pound, that every breeder did his utmost to make his wool as saleable as possible. Hitherto the wool had been washed, as a rule, in the cheapest and quickest manner—as, for instance, sheep were driven into pens upon a temporary stage over a river or

lagoon—they were next thrown into the water, kept swimming a few minutes within the limits of a framework of logs upon the surface, then swam out across twenty or thirty yards of clear water—sometimes they were soaked first, and washed within an hour afterwards—sometimes they were washed hurriedly by hand or by crutches while swimming. But the whole process only occupied a few minutes, and did not remove half the dirt of the wool; if the water was hard, it fixed the remainder like a dye. Many stations did not wash at all—except to save carriage, very few would have thought of it—but wool became the test of value of sheep, when they began to accumulate in numbers faster than the population of the country, and unheard-of prices being paid for good wool, the washing of it was improved.

First, since the gold discoveries, the cost of growing wool was reduced; next, that wool was improved; and again, it was more carefully prepared for market. These are the later improvements in the industry, and these changes have altered the nature of the business, and the life of the interior, to considerable extent.

Thus fencing was adopted. It had been found in enclosing freehold lands, in the older settled districts, and giving sheep perfect liberty in their paddocks, that they thrived upon the poorest country; that any country could carry more stock than by shepherding; that their wool and condition were always better, and the expense and trouble much less; while it was discovered that native dogs could be poisoned off until they were exterminated. The old system of yarding sheep all night, generally in old unhealthy yards, was nothing but ruinous to weak

animals. Shepherding all day signified that one of the stupidest or laziest class of men, to be hired cheap, drove the sheep out and in of this yard, over a mile or two of bare ground, to run them some miles over grass in a few hours daily; that he camped them in wet unhealthy yards nightly; that they had not enough time to feed unless grass was abundant, while this driving and yarding hindered the healthy clean growth of wool, and gave the weak sheep no chance of living, as it had only the poor pickings left by the flock which ran over the feed. But, turned out, the poorest had as good a chance as the fattest; all had a good camp; they slept or fed, night or day, as they chose by the weather; they ran over no ground to and from yards or camps: condition, health, and pasture were alike saved. Dogs were found to have been too much dreaded. They soon disappeared in Victoria; and by systematic poisoning, far and wide in every direction, it was found they could be exterminated in time. They came again and again, being to some extent migratory; but the cost of poisoning for a large station is not more than used to be the cost of carrying rations to shepherds.

The question of cost was, however, decisive. It was found profitable by Victorians first of all, next by Queensland squatters. The fall in value convinced the whole of the younger colony of its economy, for no means were left untried to reduce the cost of production. Fencing may be said to have saved the north, for had the cost of growing wool not been reduced one half, the industry must have been abandoned. It is now extending throughout New South Wales, and its advantages are beyond ques-

tion. By shepherding was implied much more than the maintenance of shepherds. It implied messengers to carry their stores, and to move flocks from place to place; overseers to look for lost sheep, and watch shepherds; numbers of men about stores and forges, men butchering, erecting yards and buildings, and in general management; besides a large number of saddle and draught cattle. Paddocks require not more than one mounted shepherd to watch the fences of some thousands of sheep, without any subsidiary labour, and without more than one supervisor. It is not too much to say that, by the old system, the largest stations even had generally, in one way or another, to maintain a man for every thousand sheep. Nor is it beyond the fact that the same station in paddocks, say a run of 50,000 sheep, does not employ more than one man to 8000 or 10,000 sheep. Upon a fenced-in run only 'boundary riders' are required, who also poison dogs, and occasionally additional labour may be hired to draught stock; while both systems involve the same labour in washing and shearing, fencing does not involve extra labour at lambing, which formerly trebled for a time the wages of a station.

The actual outlay in fences was never more than five years' wages, sometimes half that. At first clumsy fences were made at great expense, and only of late has a cheap durable style of fence come into general use. The first fences were made of timber solely; of brushwood laid in heaps along the boundary, of logs and limbs all piled in mere solid heaps, or of logs laid end on end in zigzags, as upon blocks. These were all more or less liable to complete destruction if the grass caught fire. They cost, for

brush, 10*l.* or 12*l.* per mile; for logs, 5*l.* or 6*l.* per log per mile, there being three or four logs, one above another. The first was only a temporary enclosure for sheep, the second might be a permanent cattle fence. But of late fences are all made of wire. They are becoming lighter and cheaper as experience is gained; and from strong heavy wires and high fences, the standard has fallen to low fences of light wires. From a 4-feet fence of 6 or 7 wires, costing 40*l.* or 50*l.* per mile; the majority of recent fences are about 3 feet high, of 5 or 6 light wires, costing 25*l.* or 30*l.* per mile. Fires have no effect upon this fence; for the timber is light, and offers no resistance to flames. This consists of stout posts sunk 3 or 4 feet into the ground, about 100 or 120 yards apart, upon which the wires are strained; between these posts 10 or 12 stout stakes, or light posts, carry the wires; and between the stakes, 4 or 5 battens keep the wires in position. The wires pass through the timber; no staples are used. These fences will last, when made of the best timber, 20 or 30 years in the south; or in the north, where the timber is inferior, perhaps half as long.

The cost depends upon the extent of area required for a flock. This varies with the pasture; with the size of paddocks, or their subdivisions; and with the number of contiguous paddocks, as upon large runs, or where two or more runs fence boundaries at joint cost. Some runs have many hundreds of miles of fences; they may carry 100,000, or perhaps nearly 200,000 sheep; others have a small number of sheep in many small enclosures of the most substantial fences. Such a small run may have spent seven or even eight shillings per head in fencing;

but in general runs have been fenced for one half of that, sometimes for one third. In fine, sheep-runs have been fenced in throughout most of the country, at three or four shillings per sheep: thereby reducing the cost of growing a fleece of wool, while increasing the stock naturally, by eighteen or twenty pence each. This saving is upon the shepherding alone, for the other heavy charges of shearing and carting wool are the same. Formerly, few stations were worked for less than three shillings per head; now this is reduced one half.

In anxiety to reduce expense, fencing was too much depended upon at first. When large numbers of young sheep were left for months in wide enclosures, as 20,000 weaners in a paddock of 10 miles square, they became wild and unmanageable; men on horseback only terrified them; and any stock left entirely to themselves become alarmed at trifling interruptions—neither cattle nor sheep will fatten so soon, left entirely alone, as when the keepers are riding amongst them daily. If dogs have not been reduced before sheep are turned out, their lambings are entirely destroyed; and sheep in paddocks cannot be so well kept clear of 'spear-grass,'—a species of grass-seed which penetrates the animal, to the ruin of its growth,—nor of any of those seeds which damage wool so much. But all these drawbacks can be foreseen and provided against; and they offer no set-off to the immense advantages of fences; for runs fenced in can carry one half more sheep in most cases, the wool is better grown, in quality and in quantity, and the animals are more vigorous and healthy; and, as this system became general in a period of great depression, and saving much of the wool-growing

industry—now, with better markets, it will fully double the profits of squatting, other things being equal.

Wool has been much improved at the same time. The first impetus was given to this by the high prices obtained for fine clothing wools, used in making broadcloths; and this gained force whenever the wool market fell. For during these falls, the highest classes of the staple are less depressed than any; they hardly vary in price, being limited in quantity; and it was precisely at these periods of depression that attention was directed to quality rather than to the numbers of sheep. This class of sheep was typified by the close, fine, short wool of Saxony, known as Negretti, and numbers of these sheep were imported. The best wool grown, for quality and high price, was that which most resembled this; and some of the finest flocks having obtained strains of this blood formerly, these densely-woolled sheep came into general fashion. They were taken out in forming stations as the safest blood to breed from; and the oldest flocks were crossed with them. Not only in one, but in all the many climates of Australia, the Negretti was used as the standard of excellence. No attention, for a time, was paid to the inevitable effects of climate, or to the possible change of markets; every one tried to grow fine wool only.

But at length the longer wools came into fashion; for broadcloth is becoming less and less used, and tweeds are becoming so generally worn that they may be called the British uniform. These are made from wools which have length rather than fineness; if well grown, healthy, and even, they may be as valuable as a much finer staple. But they have another advantage to the grower—they can

more easily be grown in quantity than the fine wools. A large heavy fleece, as longer and less fine wool naturally is, can be grown profitably for a much less price per pound than a small quantity of finer wool, even if the latter is of higher value. And the demand for these 'combing' wools continuing, and promising to increase, they are now more esteemed by growers than the fine 'clothing' wools, and the latest demand being for long wools, Negretti sheep have received a great deal of undue blame.

Negretti sheep were taken to all parts of the country, from the cold southern uplands to the coasts of tropical Queensland; and it is not likely that they could suit all these climates. The system of breeding was then wrong; it was not breeding, but crossing. Then animals which nature had selected as most fitting for the climate were not bred from the finest specimens of a flock, were not chosen year after year, either for value of fleece, value of wool per pound, or for carcass: but it was attempted to get the desired animal at once, by a cross of animals having the advantages of dissimilar climates. Such crosses may succeed at first, but if continued, the result must approach one or other of the original types: according to the age of blood and fixity of character in each, the increase will tend to that type, and the weaker strain will be worked out. And when this action is again interfered with by climate, a strange and unexpected result may be attained. Such was the case in Queensland, and in many flocks of New South Wales. All manner of sheep were crossed with the Negretti: old flocks, carefully bred by sound selection for twenty years, were crossed and spoiled; new stations, of the best and the worst sheep to be bought,

ruined their stock by breeding from these fine delicate sheep. It is now held by many that the Negretti type is particularly unsuited to the northern hot climate; for such a very fine fibre requires much yolk to maintain its health with such small vesicles, and heat reduces the quantity of yolk. But many say they wish to grow good wool at once; they do not care for a breed having a fixed character; they prefer to buy rams rather than to breed them. This may be good policy in extreme climates, as in the north, where all sheep have hitherto deteriorated, and signs are visible of the decline of wool-growing from other causes; but it is a short-sighted system in temperate climates, where wool can be grown and improved. No amount of crossing and mixing of types will ever produce the success which nature will achieve by simple selection; no crossing will ever produce an animal so suitable for any climate as the selected descendants of the finest specimens of many generations. Wools may vary in value; sometimes long and sometimes fine wools may be in fashion; but no wool will ever pay the grower so well, in the long-run, as that which is most suited to his climate and soil, as that attained by selection of the fittest.

This has been the experience of the most successful wool-growers of the country. They have not in one instance attained their eminence by crossing, but in every case by avoiding the intrusion of any blood into their own, and by carefully eliminating the worst, and breeding from the best, specimens of each generation. Nor have they all produced the same type of animal or class of wool; but each different. The sheep of the hot dry climate and wide bare wastes of the great plain have a

long-legged body and a fleece of open long wool. The sheep of the well-grassed cold uplands of Mudgee have a smaller and heavier-looking frame, and a dense close fleece of shorter wool. These are quite different in every respect, except that each is a most valuable animal, more profitable than any other sheep produced by any system of breeding, and that both are the result of these principles of selection carried out for twenty or thirty years. The one grows a fleece of say three pounds of wool worth forty pence per pound, the other grows four pounds worth thirty pence; and neither district could possibly produce the other's wool. Against crossing it can also be urged that no breeds of merino sheep, the most hardy and useful of all breeds, can excel those of Australia; no better types can be imported than the climate has already produced; for it is on record that the highest price for wool has been obtained in London, not by German or French, but by Mudgee wool.

Wool is much more carefully prepared for market than formerly. The original reason for washing wool was to save carriage by extracting most of the dirt and yolk; it was all washed again at home; but of late it has been expensively treated to enhance its price as quoted in the sales; for all wool sales in London are published in the colonial newspapers. Wool is now washed perfectly clean, literally as white as snow, upon the sheep's back; these are then kept scrupulously clean for two or three days, that time may be allowed for a small quantity of yolk to rise; and then they are shorn. The wool is often elaborately divided and classed; and every means tried to meet the ideas and tastes of buyers. The common method is

'spout washing.'—The sheep are first sprinkled under a shower-bath, sometimes with warm water, to soften the tips of the wool.—In less than an hour they are put into a warm bath and washed with soap.—This bath may be as hot as 100° Fahr., but it is not desirable to have it above 90°; the hotter this bath is, the quicker the sheep can be washed, but the lower this temperature, the softer the wool and the better the result.—After a few minutes of this hot bath they drip upon a stage for a second or two, and are then put under a douche, which is a thin horizontal sheet of water like a blade, against which the sheep is held sideways, and turned over and over; the pressure of this water is not less than 10 feet, so that every particle of loose matter is expelled from the fleece mechanically. Then they are kept upon the freshest, cleanest swards obtainable, and shorn upon the fourth day.

This process often fails from the water being too hard; and if the hot washing is imperfect, the cold douche after only fixes the matter left; and if this is remedied by the use of soda a risk of destroying the wool is entailed. The only safe plan as yet suggested may succeed with some sheep, but with few: this is to steam them thoroughly, instead of washing in hot waters. No matter how hard the water, this will completely loosen the little dirt found in paddocked sheep, and enable the spout to expel it. But this method is only applicable to very clean sheep having little yolk; it may do for flocks kept in paddocks in hot climates; it cannot clean sheep which have not only dirty wool, but dust throughout to the skin. And all washing may be overdone; it entails the erection of powerful pumps and steam-power in nearly every case,

and frequently of dams; and the cost of the carriage saved is often less than the expense of washing.

The practice of fencing has very much increased the producing power of the country, and changed the manner of extending squatting. It used to be the custom to take up more country when stock increased beyond the number of flocks a run could carry. But experience has shown that pioneers always lost; it never paid to grow wool at out-of-the-way stations; cattle might increase, but no other form of squatting has been found profitable upon new country, except in Riverina—which was not so much beyond, as between, old settlements—and although there is more room for extension, it will not likely be encroached upon until the old settlements are much more productive. This will not be the first, but the second result of fencing. Fences, enabling more stock to be carried, immediately result in overstocking, to the detriment of the natural pasture; for sheep at liberty do not eat all the pasture; they select the best herbs and grasses, and they eat out those to the survival and increase of the poorer feed. Hence, country suffers severely by fencing in the first instance.

It has been said that good country—that is, volcanic uplands having 20 inches of rain annually—when fenced can carry a sheep to an acre. Such lands, but having nearly twice that moisture, and in the southern bracing climates, as the western district of Victoria, may carry three times that stock. But this is a rare exception. No country in New South Wales or Queensland has carried say 2000 sheep upon 2000 acres, for two years together, unless that land was cultivated. Some runs in Darling Downs may

have carried a sheep to two acres for whole seasons, or double that for some months, and portions of country may be equal to more; but these are very high averages even under fences: again, all these fine pastures, which have been longest enclosed, are seriously deteriorating. This was first noticed in the western district of Victoria, and next throughout that colony. Of late it has been found to occur in Darling Downs; and the same calamities have in both places followed this first result of fencing—the sheep have suffered. Few thought of sparing the pasture, and perhaps fewer succeeded, by this means in preventing the change; for the stock, year after year, had less of their best favourite food, and steadily lost vigour and health. For years the old sheep country of Victoria has been deteriorating in quality of pasture, and the sheep in their health and constitution. Diseases, particularly parasitical, are general, fixed, and spreading—already they have appeared in Queensland; and sheep upon these fine downs, which never before required more salt or tonics than the herbage supplied, are now kept up with sulphate of iron and fine salt.

The remedy will follow. In the western district of Victoria most of the pasture is intermixed with imported grasses, and it is found profitable to lay down grasses and trefoils for wool-growing. This is in remarkably fine soil and climate; but it is not only possible to grow such grasses where wheat is grown—it is frequently found more profitable. So much so, that many arable farms have reverted to grass, and innumerable free selections have been bought up and grazed, both by large and by very small sheep-owners. Thus experience has shown it

will pay to grow grasses for sheep, and to grow wool upon freehold. At the same time, two recent changes in the colonies facilitate this development of sheep-breeding; the first is the general acceptance of the fact that land has been overvalued, and can be got cheap from freeholders now, and probably will be more obtainable from governments very soon; the second is that one colony, that of Queensland, already provides for this industry, by selling pastoral lands in areas of 6000 or 7000 acres at from 5*s.* to 10*s.* per acre upon credit. By these changes in public opinion, it appears most probable that squatting will be extended by an altered system—by developing occupied land, rather than by occupying more. At first, freeholders, under this system of Queensland, will be cautious in cultivating for sheep or for any purpose—it requires capital; but upon a freehold property a farmer will attempt a great deal beyond his ability upon any lease. And this system of freehold grazing will encourage a very large class, who have no safe investment otherwise; for by the old system no station paid with less than 20,000 sheep; 10,000 could barely carry on a station; so that it required considerable capital to engage in squatting, which, if borrowed, left the lender very often all the profit of the concern. But upon freehold it will pay to erect small paddocks, and breed a few sheep carefully with a future in view; this can be done at little cost first, and little labour throughout, in old settled districts; and is altogether a safer and pleasanter career for any beginner.

The extension of sheep-farming cannot be great in area; for there is only one considerable tract of sheep country unoccupied, as far as we know of the country. Sheep have

been taken too far north, and been driven back by the climate already; so that we know their northern limit. And it is remarkable that the farther north we go, the sooner the country fails as sheep pasture, beyond the temperate climate. Darling Downs has carried sheep well for thirty years. North of that, the Burnett did well for nearly twenty years, and then the sheep became unhealthy and ceased to increase; they have now nearly all been displaced by cattle. The Dawson country has lasted a shorter time, yet sheep did remarkably well upon it at first. The downs of the other Fitzroy waters are beginning to give in; by grass-seed increasing and good feed disappearing, by the spread of scrubs arising from the check to bush-fires, and the increase of game from dogs being poisoned—all these changes are rapidly deteriorating the native pasture. North of that, the Burdekin gave in as sheep country in four or five years, and now no sheep can be profitably kept north of the 21st or 22d parallel within 300 miles of the coast; although the climate is less dependent upon latitude as we approach the interior, by which this action decreases as we leave the coast.

The produce of the country is much less, too, as we approach the tropics. In the good country of New South Wales it is much easier to grow good wool than in the north; half the expense and trouble will breed better sheep, simply from the climate. In such country, 10 acres of land, dividing all the acreage by all the sheep on the run, will yield about four fleeces worth 6*s*. each; in Darling Downs, 10 acres may average nearly as much. But in portions of Victoria and South Australia, that area often produced, under natural pasture, twice as many fleeces

worth more each. And in Northern Queensland, 10 acres will hardly produce two fleeces worth 5*s*. each, generally much less.

There is, therefore, not much room for extension. The only promising field is the north-eastern margin of the great plain, and its northern slope to Carpentaria. Upon this watershed, north and south of it for 100 miles, there is a dry climate, but not too dry, and fine tablelands. Lower down each fall, the country becomes too flat; the rainfall is too small on the one side, and too great upon the other. West of that, we know of no good country until the tablelands of the Victoria River are reached, and these are limited and too tropical for sheep. The northern coasts of Western Australia do not promise well for wool-growing. The great interior may be more nearly approached, at great expense in dams and carriage, but there is very little country available there. The sheep country is nearly all occupied, while the experience of all pioneers is that they lose, whoever makes money by new country; for even in Victoria pioneers were generally ruined, and their overseers and bullock-drivers made fortunes. The most promising field for squatting extension is by grazing upon freehold; by sheep-farming rather than by squatting. This is within the compass of small capital; it does not involve years of misery or difficulty; it tends to improve land and stock from the first; it makes real permanent settlers; and will make more fortunes for individuals, and more export for the country—it will support more stock and more population—than the old method.

As an investment for capital, squatting has generally

ranked high, but it has not yielded an adequate return for the high risks involved. It depends firstly and absolutely upon the wool market; but then it is next subject to droughts and diseases; it is taxed by fluctuations in the price of labour; and, more than all, it is always requiring more capital to withstand the increase of population. It is much more productive, as an industry, by this increase; but it also is made to produce at a greater cost, or give place to another system. In all squatting districts, their success is sure to make other classes than the graziers covetous of their land, and the grazier must buy his run or give it up. No matter whether legislatures or individuals approve or not, the fact remains that the squatter must withdraw his capital at a loss, or add much more to carry on; and he is always called upon for improvements and new fashions in wool. In fine, a station is a continued sink of capital. And prices remaining the same, it is very seldom that 20 per cent per annum is returned in the best investments; generally less than half; but as prices are always fluctuating more or less, fortunes are made by good investment;—this is not wool-growing or cattle-breeding, or squatting at all—it is speculating in property. Squatting with other property rose greatly in value when gold was discovered, and squatters became rich; then prices of 20*s.* and 25*s.* per sheep were paid for stations; but it was rarely that those investments paid 20 per cent for even the few years wool kept up. Wool fell, and those properties were not worth more than 10*s.* Many bought land at from 12*s.* to 20*s.* per acre, and the land would not realise that now. New stations cost double of old ones, and never paid their expenses.

Now wool has again risen, and those who invested during the depression have done well. Runs are fenced, the stock improved, and profits are high again. But the prices paid are rapidly rising to a rate which cannot yield an adequate return for capital. Money is always dear in the Colonies, about double English rates, and it is impossible for squatting to pay upon borrowed capital; while during depressions the lender finds his power tied up beyond his reach, his security unmarketable, and, if he is in commerce, his business crippled. There is no field of squatting safe to a small capitalist. Even in fences, 10,000 sheep will hardly carry a station on, unless they are superior stock, and in a settled district. 20,000 will pay in fences, but the larger the scale the greater the profit, up to limit of management. In fine, squatting is for capitalists only; yet it does not offer a good investment for them, on account of the great and frequent fluctuations in prices, and the continual call for more investment.

But by land being sold to real occupiers, agricultural lands to cultivators, and pastoral lands to graziers, at prices more near the market value, it may become possible for a safer investment to be found, a more productive industry established, and an outlet made for capital in smaller sums. If graziers could obtain cheap freeholds—cheap enough to pay for wool-growing, and leaving out all calculations of future rise in value—and in areas sufficient for grazing, in the settled districts, it is not improbable that good wool would be largely grown by men of moderate capital. For small holdings will necessitate better sheep, and those, being more productive and not more expensive to keep than inferior animals, will be more profit-

able; the holdings being freehold will permit of more outlay being safely made in improving them, and developing their grazing capabilities; and an outlet will be found for educated men of small capital—to the manifest strengthening of the community socially and industrially. More population, and that of the best class of settler—with more stock, and that of the most productive breeds—will succeed to the present state of a very few masters and a scant labouring population, grazing flocks in a less productive system. Production of wool, as of other commodities, may be developed by increasing the scale of operations; larger stations generally pay better than smaller ones, but that only when the management of each is equal; but it may also be as well increased and its cost as much reduced by improving the management. And one well-known wool-grower, one among the most celebrated in the world, has frequently given his opinion that no man could manage more than 10,000 sheep, to do them any justice: he has never attempted more, and he attributes his own brilliant success principally to that fact.

CHAPTER VI.

Cattle—Formation of a cattle station in the interior—Camping cattle—Wild cattle — Stealing brands — Coast cattle-country — Meat preserving, its prospects—Horses—The stock-horse.

A VERY large proportion of the country is only fit for cattle, and a still greater area is devoted to that stock. Good sheep country is good also for cattle, but much unfit for the former is admirably adapted to the latter. Wet lands, cold clay soils, poorly grassed country, and valleys subject to floods, are all unsuitable for sheep, and good for cattle. In the north heat intensifies these differences, and makes a wet country, when warm and subject to excessive rains, more hurtful to the one, and more fattening to the other. Wet never hurts cattle if they are not excessively exposed. Upon the warm northern coasts they are always fat, there is no winter, and they may spend one half of the year in marshes without any desire of change. A mild or warm climate will fatten cattle upon the poorest feed; they require to be always warm, have plenty of water, and never let run wild, and they will fatten on the rankest or poorest grass. A change of climate, from a cold, wild, mountainous country to a warm Queensland coast, has often first tamed and then fattened a wild herd, and produced a race of quiet superior animals; and this upon swamps and valleys of grass many feet high, utterly unfit for sheep.

In the far interior also cattle are the general stock. Here the country is very fattening, and can grow good wool; but the expenses of sheep, as they require so much more labour and so much more cartage, leave the field to cattle. Besides, this country is more scantily grassed, although the grasses and herbs are the best, and cattle are more able to travel for feed than sheep; this country is less supplied with water, and more subject to droughts, when cattle can do more for themselves than sheep. They frequently have given place to sheep in this interior; they have gradually been driven down the slopes, inland from the eastern margin of the great plain, before sheep; and in the north have been sometimes made the pioneers of wool. They have thriven everywhere. They increase and fatten in the Gipp's Land valleys, under the snow-clad mountains, and in the alligator swamps of Carpentaria—the same breed of animals equally in the one climate or the other. But the heat, whether northern or inland, gives quicker growth and more contented dispositions; and the dry air of the interior gives a better constitution and more solid condition than the damp coasts.

The formation of a cattle station was a very different undertaking from beginning with sheep; it required less capital and trouble and expense; for, until recently, cattle used to be always kept in mixed herds; the increase ran with their parents year after year. At that time, herds of mixed cattle as they ran were generally employed to take up a new cattle run; or sometimes a supplement of breeding stock was added. This mixed herd, of perhaps 1000 head, was driven straight out to the new country with little difficulty. Wet roads, rough ranges, even floods or

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droughts, rarely delayed them altogether, like sheep; they could travel, faster or slower. A few would be left upon the way, horses would have the hardest of the work, drays with supplies might be slow; but the journey was generally completed, across many hundreds of miles, with and without tracks to follow, at an average rate of seven or eight miles a day, camps included. Beyond a year's supplies, solely of rations and saddlery, with a few carpenter's tools, very little outfit was necessary; and most unlike sheep, only a small party was required—about five or six men in all per 1000 cattle.

Most of the old cattle stations in the early colonies were formed by one or two stockmen and some black boys. They were sent down a river with some surplus cattle, to save the old run in a bad season, or to make way for sheep, and received little attention beyond the supply of rations. Black boys are excellent stockmen. They take the saddle readily, and become fond of looking after cattle. For stock-riding is their own life of roaming and hunting, with a certainty of success, as they always are sure of plenty of food; besides the inducement of a horse to ride, and above all, their tobacco. They are particularly useful upon the road, as they have the faculty of locality well developed, are never one moment at a loss as to the direction of any spot they know; they have fine eyes and practised senses; they can track a man or beast for days, when very few white men could see any foot-mark or trace, and they are easy to manage: tobacco and amusement are all they require to be contented. As a race, the aboriginals are good-humoured, fond of animals, incredibly lazy, utterly heedless of to-morrow, and think

more of tobacco than of anything else in civilisation. Very few cattle stations have been formed without their assistance.

To form such a station was simply to place this mixed herd of cattle in the country, and keep them from leaving it altogether. They were allowed to divide into smaller herds for grazing, and to roam as they pleased within the limits of the run; they were never yarded except to brand, nor collected together except to camp. This camping of them was the means of 'breaking them in' to the run, of teaching them their limits and their homes. When first turned out, some one or more eligible spots were made camps; generally one at first. A camp must be near water, in a central position as to feed, and have some shade; it is for the cattle to rest upon in the heat of the day. Upon such a spot the newly-arrived cattle are driven daily for weeks, when they are first turned out upon the run; they thus learn to run to their camp when started, as to their home; and when camped, they are kept steadily there for some hours. This is the whole duty in forming a cattle station. From the camp they will feed out miles in the night and morning, and when put upon new country they, for long after, try to make back to their old camp. The bush cattle of Australia have fine instincts, and are as able to take care of themselves as most wild animals. They will travel hundreds of miles back home across any country, and, what is more singular, take shorter cuts, by routes utterly different and remote from the roads they came by. They have been taken north, along circuitous coast roads, 1000 and 1200 miles, and made back by a straight line, by the chord of the arc,

200 or 300 miles inland from their outward route. But by continued steady camping they become fixed to a new run. As the herd increased, it was usual to wean the calves roughly, by taking a large draft of them where grass is young and abundant, of all ages from 5 to 15 months; and, having yarded them until their mother ceased to look for them, to herd them here for weeks, camping them daily. In a year or two no cattle would think of leaving the run, and, if removed, would try to return. But if droughts should scatter them, or wet weather and floods drive them back to higher back country, then, if the cattle have been broken into the run, it is customary to let them go; with a change of weather they will return to their camps.

The routine of working cattle, under this system, consisted of camping the cattle, to get the calves branded, to wean, and to draft out fat stock for market. For months, in adverse weather, they would be left to themselves; and when a fine season, that is rain, brought grass and condition, they were camped. Then buyers or drovers came to take away fat stock, and a general overhaul of the herd was made. In the great inland cattle country, which all Riverina once was, and which the plain north of it still is, there are no boundaries to runs but imaginary arbitrary lines; there are no ranges or impassable rivers, no break whatever to the one monotonous plain, unless the belts of dry country. Therefore the cattle here mix one herd with another, and follow the majority to camp when started; so that a camp collects many strangers. In this way it becomes necessary for neighbours to work together, to join in camping for a muster, and to take their cattle

from strange camps to their own runs. When a station proposes to collect their cattle, it becomes general; one after another does the same, and the stockmen go from one run to another collecting their own.

This is the great event of a cattle station: they first of all send word to their neighbours that they intend to 'put in' a certain camp, upon a certain day; stockmen from other runs immediately come to assist, and to get their own; others arrange to meet at outside points in mustering, and the day before camping all hands possible go out, in each direction from this camp, to the limits of these cattle. They must not go near other camps—the cattle should not be shifted from one to another camp; at these outposts they camp that night, and possibly meet neighbouring stockmen, to begin next morning with daylight the work of mustering.

Wherever fresh tracks are seen, the cattle are hunted up. Plains are scoured, and every piece of timber looked; every beast is brought into the line of direction to camp, and headed on. The sun rises, and the circle of riders narrows; the cattle keep going; they know the way, and that the sooner they get there, the sooner they will be left alone again. The heat grows, and the dust rises, but the mob rolls on, the stockmen sweeping-in every straggler. Down watercourses, through thickets, along belts of shady timber, from one pool of water to the next, the cattle stream along. The young bullocks lead, the fat follow the main body, and the old bull strides sulkily behind, rolling his sullen eyes; last come the cows, with very young calves struggling, gasping, and tottering behind them. These young calves may be left, if they

cannot travel; nothing will hurt them, and their mothers will find them to-night, at the foot of the tree where last seen, if they should travel twenty miles back; while as the heat increases, the cattle are hurried on; for all the day's work should be over by noon. So, as they get nearer the camp, the different converging mobs begin to join, the parties of stockmen unite, the cattle are all collected, and they are driven rapidly on to camp. The noise and dust and heat increase. As mobs join and mix and rush on, they bellow for companions, the cows cry for lost calves, and the patriarchs of the herds salute each other; they drown the shouts of men and echoes of whips; nothing but one continued roar is heard as they collect upon the camp, amid clouds of dust.

There are perhaps 5000 head on the camp. It is a spot of hard ground, half a mile back from a lagoon, at the junction of three shallow watercourses; there are belts of trees along these creeks, and open plains between them; there are some large trees scattered on the spot. Here the cattle at first walk about discontented and roaring for some minutes, and then become more settled, while preparations are made for the next operation. There are 20 or 30 men on the ground, stockmen from stations 50 miles off, managers of most adjoining stations, buyers of fat cattle, and assistants with fresh horses. The cattle are drafted on camp. The men who do this take fresh horses, and stockmen generally reserve one or two of their horses for camp work alone. The other men ride round to steady the cattle upon their camp, or to take charge of the different lots drafted out.

Mounted upon a compact wiry horse, probably a 'flea-

bitten' half-bred Arab, about 15 hands, a stockman rides into the throng of cattle. The fat are first taken out. The stockman selects a bullock, takes his horse's head, and turns the bullock head-outwards. Immediately the horse knows his work. He gets his legs well under him, his forefeet rather forward, his head up, and his eyes and ears all about him. The bullock gallops off, and the horse rattles after him; finding he cannot get away from his pursuer, the bullock takes a slight turn to dive into the thickest of the cattle.—Here the inexperienced horse and rider, having let out and got way on, shoot ahead, and lose their beast; or the horse stops, and not the rider, who flies off across his horse's shoulder amidst the cattle, and probably clears the camp; for few objects terrify bush cattle more than a man on foot, they never see such a thing except in the hated yards. But the stockman and his camp horse, the moment that the bullock looked round as if he would turn, were up, the horse round upon his hind legs, and down in front of the bullock before he knew it. Quickly, carefully, springing after him, behind one quarter or the other, as the bullock looks round, they drive him right out from the throng, and then run him straight out upon the plain to the small clump of trees, where another man takes charge of the draft. In this way the camp is drafted of all required; first the fat cattle are taken; then the cows and calves to brand; then the strangers. Each draft is driven home, and the camp left to disperse again as they please.

In this open country, so monotonous and boundless, the herds become extremely mixed, and after a prolonged drought the camps are unaccountably crowded with stran-

gers or unexpectedly bare; there may be half or double their usual number; and various numbers of cattle put on one camp from 3000 to 7000 head. To keep these herds together, and to obtain all their increase, there was a custom—not altogether abolished yet—of giving the stockmen a premium of so much per head, two or three shillings, for every calf they branded. This led to cattle hunting, and eventually to stealing. Then many cattle owners, as the stock fell in value, neglected their property; they frequently allowed their stockmen or superintendents to breed a few cattle for themselves, and very often the man's herd increased much faster than the master's. Again, as fat cattle became saleable anywhere, as population went on rapidly increasing and spreading, it was found easy to drive off cattle by unknown routes, and, appearing where neither cattle nor drivers were ever questioned, to sell them or slaughter them.

This cattle-stealing was very prevalent in the interior for some years. There is little population there, all are horsemen, and mobs of cattle are always being driven throughout the whole country, so that no one could suspect any mob of cattle; for strangers are not questioned, and brands are not visible far off. But owners began to find they were being robbed; the brands of cattle enabled the police to trace them; while it was impossible to convict for cattle-stealing. There were many identical brands used by different people; there was no reason why any man might not use another's brand if he chose, so the brand was no proof of ownership; and it was very rarely that any man, having a mob of cattle stolen and traced, could swear to the identity of any one beast in the mob;

he could not declare that no one else had that brand, or that he knew his cattle by their appearance; nor was he likely to remember the marks of one out of thousands of cattle. This has of late been remedied by the Brand Acts of New South Wales and Queensland. These provide that no one shall use any brand but by authority of their government, which takes care that no two brands shall be alike; that brands are a *prima-facie* proof of ownership; and that, in transfers and rebranding of stock, the new brands must be placed upon certain portions of the animal in certain order; so that, as registers of all brands are published, the breeder, seller, and owner of any beast can be discovered at once. The police have authority to stop any suspicious cattle, and demand proof of ownership. The two colonies have distinct forms of brands; so that no animal can be taken from one part of the country to another unnoticed and unknown; slaughterers have to keep accounts of the brands which pass through their hands, so have pound-keepers. These acts will take a little time to come into full force; the old brands will incommode matters a little; but they have already checked cattle-stealing, and will eventually be of the greatest use to breeders and to the whole community.

But cattle will become wild if neglected, and have not the advantages everywhere which these plains give. In broken country, near ranges of mountains, they require much more attention, or will become perfectly wild; and near scrubs or impenetrable thickets of great extent, they soon form irreclaimable herds. Cattle kept in cold situations are less contented and more apt to wander than the fat herds upon the plain; they run up to tops of ridges

for warmth in cold nights, and follow the watercourses in summer; they travel more and camp less, are more wary and shy than the sleek herds of warm rich pastures. So the cattle in hilly country, where the climate is cool enough for them to face the hills, become very wild if neglected; they will run where horsemen cannot follow; and if in any country or climate they find these scrubs, they are sure to make into them for shelter from the cold of winter or the heat of the sun. These scrubs are so dense that they give a perfect shelter; there cattle can only be got by a stratagem, and give excellent sport. There are few field sports anywhere, and none in the bush, equal to 'hunting scrubbers.' In the bright moonlight, with keen riders, fresh horses, and steady coaches, when really wild cattle with plenty of go are to be got, the sport is of the best; and if a man or horse may get a fall neither will regret it as much as the loss of an old bull 'broke-away.'

These scrubs are generally amidst plains of fine pastures; sometimes they fringe the watercourses as 'bricklow' scrubs, sometimes crown the watersheds as 'belar;' but they are all dense, and have not much feed inside. There is always good feed on the open country round them; and here the wild cattle will come out to feed at night, if not molested, by which habit another plan of mustering is used. To get them, a party of stockmen take a small herd of quiet cattle, 'coaches,' and go early in the evening to lie in wait—it requires moonlight. They post these coaches in the tracks of the scrubbers, where they fed last night, and conceal themselves as near as possible. The coaches will feed, and the scrubbers draw

out at sunset.—At first the latter will be shy, but if not too cunning by previous experience, they will mix with the quiet cattle, with much bellowing and routing.—They are allowed to feed out farther and farther from the scrubs, the men eagerly watching; and men and horses have all this time to keep carefully out of sight and hearing and scent of the cattle, for wild cattle are very quick; they must wait too for light until the moon is well up above the trees. Then—all the cattle clear of scrub and quietly feeding—every horse fresh and every man knowing his work—a rush is made round them. The first dash is between them and the scrubs, to sweep them away as hard as they can gallop out into open country. The first dash is everything.—If across the plain—let your horse out; if in forest—drive him through, lights and shadows and fallen timber; if among thickets—drive him through, light or dark, thick or thin—the only thing is to stop the leaders of the mob from reaching the scrub. For an old cow has heard you, and you can see a thin marble line travelling through the moonlight to the nearest point of scrub. Once headed before she is in, a wide circle sweeps her and her following back among the coaches; but if an old bull will not head back, shoot him rather than let him go. The riders will follow up each other and bring all together upon the plain.

In the next place, when the men are up, and the whole are put together in a safe spot, they are generally 'ringed,' that is, their gallop is directed into a circular course by the men surrounding them. They will keep trying to break away, even after the first rush, and to keep them in the men have to ride round and round in

wide circles. The first turn heads them in towards the centre, but they go on—trying to pass ahead of the horseman and break again; so that the men, one after another, keep circling outside, and the cattle ringing inside of these—the quiet coaches being steady in the middle. But if once the cattle begin to break away it takes all the horses can do to keep up the wide circling at a gallop, and all the men's tact to steady the leaders, for a 'buck' fairly started will run through any number of men and carry any number of bullets until he receives the one dropping shot.

Cattle getting wild in this way, and becoming so mixed and wandering in the large breeding districts, have led to their runs being fenced. This began with the best breeding establishments, as they did not import stock for their neighbours' use, and gradually extended over the country. It is not so general as fencing sheep-runs, but is becoming a rule, to which the exceptions are isolated herds; and all are beginning to keep different classes of stock separate. Even in the old cattle-country of the interior of New South Wales, where every idea takes long to penetrate, for much of it is under the management of uneducated men, there are boundary fences being erected; and the old system—of so many stations having all their cattle mixed—will soon disappear. Cattle are more carefully weaned now, fat stock are often kept distinct—for sale at any time—without mustering; and young breeding stock kept away from the herd until they mature. They are more carefully selected; formerly there was little or no selection. There are fewer black and long-legged cattle in the country, inferior specimens of this breed; and

great prices are paid for good blood. Of late, cattle have risen enormously in value, and during the depression of wool they became the favourite stock. There are two means of disposing of stock anywhere, since boiling-down and meat-preserving came into vogue; while it has been found that cattle fattened on the inland plain can travel 1000 miles and keep condition. This is a feat which is not attempted in any other climate, nor with any other fat stock, and speaks highly for both. The coast will fatten to great weights, but these cattle cannot travel; they generally go to the nearest slaughter-yard or pots, very differently from the fat stock of the inland districts; which cattle have been driven 1000 miles and killed up to 1000 lbs. weight cleaned—always a top weight for bush cattle. So that markets are not now glutted with cattle, and for the day meat-producing is profitable within the colonies.

In Queensland most of the cattle are upon the coasts, and have thriven well at little trouble. There is no winter nor cold season of any kind in the trade winds, always green feed and plenty of water, marshes, and lagoons, and warmth. The country, unlike the interior, is by no means flat or monotonous. Ranges everywhere divide it from the interior; these throw down spurs seaward, and cattle will not face any abrupt incline in that hot climate. These ranges, with deep rivers, creeks of salt-water, bays and isthmuses, all help to divide the country by natural boundaries—impassable and permanent lines. Very little fencing is required on many of the runs to cut off paddocks for the different classes of stock. For these reasons the herds here have been, on the whole, well looked after; they have been more carefully bred,

have not intermixed, have always had some market, and have never gone wild to any extent. Wild cattle are not unknown in new settlements also; but they are the increase of lost cattle, dropped by parties going out to new country. From the nature of the country, the herds have never become mixed; stations have not been in the habit of joining in musters, and cattle-stealing is almost unknown.

Cattle have increased very rapidly in value of late, from various causes. The numbers supposed to be in these large neglected herds in the interior were found, upon sales and deliveries being made, to have been greatly over-estimated. It became certain that no adequate allowances had been made for deaths, while all cattle had been counted when branded; and diseases having been common, both epidemic and endemic, large mortality had often prevailed; general and thorough musters were never made upon the large breeding-stations. When these discrepancies in numbers were ascertained, breeders began to correct the numbers in the returns of cattle to government registrars and others; so that these returns began to show a decrease upon former years. Then the fall in wool brought cattle into favour as an investment; and the consumption was increased by population and by meat-preserving; so that the belief became general that the stock was not to increase, and must rise in price. But this seems fallacious. For the numbers of cattle have not necessarily decreased; the returns have only been corrected, and in all probability the number of cattle now in Australia is actually much greater than ever it was; while they are rapidly increasing in number and quality, from the greater attention

they receive. Many large outside herds may have been reduced, and the old bullocks got rid of, under recent high prices; but immense numbers of cattle are being reared, in very small herds, by farmers and poor settlers. And all cattle bred of late are better meat-producers than their ancestors were. During some wet seasons great numbers were carried off by pleuro-pneumonia; but few of late. Inoculation was freely used, and some say to no purpose, while others are confident of its efficacy; no definite conclusion has been arrived at upon this point.

Meat-preserving came into notice with the fall in wool and decline in value of all colonial property. It arose when stock were being boiled down, and has been tried with varying success all over the colonies. Victoria led in this industry, and the most successful of all preserving establishments is, perhaps, that at Melbourne. Several followed, frequently with too little capital; and many are at work in Queensland. New South Wales squatters have been very neglectful of this, although they are the largest stockowners; and they have failed in starting preserving works at Sydney, except for the benefit of their natural enemies, the butchers. Many of these companies have ceased to work from mismanagement—from inadequate capital, bad appliances, want of arrangement and method in the premises, and generally in the details—but the most successful, having every combination of capital, labour, and science, have not met with much encouragement. They have, perhaps, raised the price of stock a little, and they often saved local markets from extreme temporary decline; they have raised the price of fat bullocks perhaps one pound per head at Rockhampton, and

often saved the Melbourne fat market; but they are now being given up, or temporarily closed, in the improved prices consequent upon general prosperity. When everything was depressed, stock were forced into market; the price of the tallow in a sheep was its worth at market, and often less than that was accepted. But when matters mended, less stock were forced at sale, and prices became firmer; while a considerable rise in all prices, stock included, arose from there being so much more money thrown into circulation when the rapid rise in wool occurred. Greater rises took place in the wool-producing country than elsewhere; prices of every article, particularly sheep, rose more in the colonies than elsewhere; and so the price of meat in colonial markets left little or no margin for export.

The demand for preserved meat may have been established at home, and may have increased, but only very low rates have been obtained. They left little profit to the preservers at any time, and they leave none now. For the process has been thoroughly and economically worked in Australia. It has been worked—that is, meat has been preserved—in the most conveniently-planned premises possible, with every saving of labour, by method and machinery; it has been done in conjunction with boiling-down works, with processes for extracting the essence of meat, and other works. There are establishments in Queensland where, at one and the same spot, meat is preserved, essence extracted, tallow made into soap and candles, hides made into leather, the hoofs boiled for oil, the bones crushed, and the refuse dried and compressed into manure; yet the returns are not very en-

couraging. In fact, the meat cannot be supplied to the poor of England any cheaper by Australia than it has been done; and if the demand does not improve, shipments will very soon cease. The cost is not in the stock; the producer of meat only gets five or six farthings per pound, the drover gets a little more, and the remaining threepence is spent in labour and tin. The small two-pound tins are very expensive; and it takes generally fivepence per pound to deliver meat in London, besides the interest between arrival and remittance of proceeds. Had it not been for subsidiary returns in manure and other incidentals, very few establishments, if any, would have carried on. Many at present are merely holding on in various ways for better markets; one at Rockhampton took to preserving turtles caught upon the reefs and islands.

This industry is not decidedly fixed yet, for the markets for meat may fall at home, and substitutes may be introduced. Many undoubtedly think that meat cannot fall, but must rise; they argue that of late all artisans, town labourers, and mechanics have become carnivorous; that so have many country peasants, the armies of Europe, foreign mechanics, and the world generally; that a constantly-increasing demand will arise for meat. But there is an unlimited production. The herds of cattle in southern Europe are not doing as well as they might; there is not the forcing of stock and feeding up of animals in any part of Europe that prevails at home. The Plate River is barely stocked with poor cattle; all the country south of it is meat-producing and undeveloped; while Texas, Arizona, and Mexico can breed more than enough for all America. What has been done in raising meat throughout the United

Kingdom during the last thirty years will be done upon parts of the Continent during the next generation; and what has been done in Australia will be done in South America. Nor has Australia begun to find a limit. Sheep and cattle are both annually increasing in total numbers. The area fit for sheep has nearly been reached, but still their production is unlimited; and the limits of the cattle country have not been seen. All tropical Australia is the finest cattle country; the warm climate has never been found too warm, and the grass has rarely been seen too rank for them: they thrive upon wet coast country and the arid inland plain. What sheep do not take, they will; they will go farther inland, drawing back as droughts or floods advance; north and west and inland, the greater portion of Australian cattle country is quite unoccupied.

Again, the markets for meat will not rise without substitutes being sent in. Science will find equivalents, and prices will compel acceptance of them, when a certain extravagance is reached; prices are limited by the power to buy. So that it is very doubtful if the price of meat in England can advance; it is more likely to fall. To encourage colonial meat-preserving, and maintain the growth of their principal produce, it will be more hopeful to look to improved methods of treating this meat. The drawback of all present methods is, that the meat must be cooked, and often cooked too much, or the heat necessary to expel the air from the tins cannot be applied. Either this or salt are the generally accepted methods. What is required is some process which will enable the meat to be preserved fresh, and with all the appearance of freshness; the latter is of more market value than any other quality

with the buyers. Many attempts have been made by evaporation of ether or ammonia, and by the compression of air and extraction of its latent heat, all to obtain a low temperature, and freeze the meat. Success has often appeared imminent, and is still confidently hoped for by many chemists; theoretically it is attained, but practically —that is to pay—it is still under experiment; and only by this or some such assistance from science, the industry of preserving meat and its future immense production in Australia, will be established, while for the present it languishes.

The horses of the country are of every class known in England, and more. Blood horses of all the noblest and most fashionable strains are imported as soon as they become celebrated in England; every great winner at home has blood relations in the colonies. The feats of the Australian racehorse are only beaten upon the best courses in England, and for bottom it is questioned if the colonial horse has been excelled. No amusement is so general as racing, no people so addicted to it; nowhere is the horse in such general use as in Australia. It is not confined to one class or one district, as it may be elsewhere; it is the amusement of the country. There are cricket and all games, coursing, hunting, yachting, and many sports; but horse-racing is the first and universal favourite. In the bush, every small village has its fastest horses; nearly every station indulges in a little racing; for horses are everywhere, and constantly used by all the population; as it is so easy to keep any animal in this climate, horses cost nothing. They are born and bred—broke-in and worked all their lives—upon grass and in the

bush, without any shelter, or, we may say, any grooming. These are the ordinary horses of the country. Racehorses, and pet hacks, or hunters, or heavy draught horses, are fed and stabled, being for special work; but they are exceptional. And as grass is so plentiful, and as horses, like cattle, require no looking after beyond keeping them within some limits, it is within any man's means to keep a horse in the interior, if he owns one. Horses are thus kept by all; and beyond the purely agricultural or mining districts, every working man has one horse or more. They are turned out with the stock of the run; they make no difference among the thousands, and are soon accustomed to the change; remaining without care, and doing well.

Breeding for the market has become quite unprofitable as far as hacks and stock-horses are concerned. Large cattle stations very often breed their own; and some have more than they require, but these do not sell satisfactorily. A three-parts bred horse cannot be turned out broken-in for less than 30*l.* or 40*l.*; and that price is not to be obtained unless the horse has some special qualities or accomplishments, by which he might make money on the turf. He would rarely fetch half that. Heavy draught horses pay generally to breed, and are always saleable. Blood-stock are very doubtful property; as at home, they are produced more for pleasure and the honours they may gain than for pecuniary profit; but other kinds of horses—the nondescripts called hacks and light harness horses, together with good stock-horses—are raised by every one, and have increased far and beyond all limits of use or profit. They are more than unsaleable, and worse than useless. In many of the old districts of New South Wales

they run wild in thousands; they are not worth looking after, and are very difficult to collect in any way; they eat the food of other profitable stock, and are only a scourge upon the pastures. Hence they have to be exterminated like vermin. In many parts of the country they are shot by hired men, for so much per head, and are collected and destroyed systematically. They abound in wild mobs, upon mountains of the most rugged and inaccessible character, as well as upon the widest plains of the interior; always degenerating, becoming smaller, weaker, and wilder.

The wild horse of the ranges becomes very active and wiry, and has hoofs of iron, with the foothold of a mule. He scrambles over rocks and gallops down slopes which no other horse, under any circumstances, could be made to face. He can only be obtained by careful stalking and coaxing into defiles, or by fences leading into yards, and run through by one man after another; or, if upon the plains, the wild horse gallops till he falls. Here he may be got by 'coaching,' like wild cattle, but by another system of hunting.—Daylight is chosen for this, as some galloping may be expected, and a mob of quiet horses taken as coaches, and drawn quietly out as decoys. When the wild mob first see the others they are very shy of joining them, and will not remain with them of their choice. The old patriarch will round up his troop, and then trot out and gaze upon the strangers—his head erect, ears forward, and nostrils dilated, his heavy crest lifting a long tangled mane—he challenges the intruders. They will take no notice. Then the wild horse goes round his own, and drives them back a little. He again salutes the others;

this time he examines them and passes through the lot. The wild troop then trot up, the foals frolicking in front; they will gallop round the others and wheel back again; their 'sire' goes out, and steadies them. And so on for some minutes. They might break away at length, and, perhaps, leave the coaches. But the stockmen must watch their opportunity, and round up the whole two mobs together. A stampede is almost sure to ensue, and most of the wild ones be lost—they will break away, straight across the plains, trusting to their speed alone, but they cannot last long. A stabled horse will run them down under any weight, and most stock-horses can head them again and again; but they will not stop; wild horses do not readily steady; and in attempts to get them, many are run until they drop dead on the plain; many foals are left; and the whole dwindle by the bolting and knocking up until perhaps only a half of the original wild mob reaches the yard. Then even that half result is unsatisfactory; for out of a hundred such wild animals, there are not perhaps three head worth breaking-in; possibly some 'coach' has been lost, or some stock-horse injured. The only gain is the removal of the lot from the pasture they were occupying, which they held to the annoyance and risk of other quiet horses, and to the loss of food for all other stock; they might be killed for their hides, and possibly boiled down for their oil; and many squatters have paid for the mere removal of wild horses off their runs.

The Australian stock-horse is a wonderful animal. He is better than the great majority of bush horses; the best of horses bred for hacks, he possibly was a bit of a racer in his youth. The ordinary horse of the country

may be described as a light hardy horse; he has a wonderful constitution, splendid feet, great endurance, and very good temper. He is generally a small horse, but has many different types. The Arab short saddle-back, fine broad forehead and gray colours, were not so rare a few years ago, but are becoming less common now than the higher long-faced English horse; who sometimes is too heavy, by strains of draught stock, and sometimes very ragged-looking behind, by a cross with the Valparaiso horse. This last animal, with his weak frame and bad quarters, did a great deal of harm to the breed of horses in the country. His endurance and constitution the bush horse probably got with his Arab blood; but the climate of the country has done a great deal for him, as the horse, like the sheep, loves a dry climate. Of all these bush horses the stock-horse is the best type. He is ridden all day, and turned out at night without brushing, cleaning, or clothing; he is shown the water and hobbled, then left to take care of himself for the night; or, at home, he is put into a paddock as his saddle is taken off. In snow, or rain, or mosquitoes—in any season of any climate—he finds his only food in the grass of the forest or plain. Next day he is brought up at sunrise, and ridden again. Day after day, for weeks of light work, or consecutive days of hard galloping after stock, he continues this life; he is not shod, never groomed; he may have never been shod, nor stabled, nor have tasted corn in his life. He will travel along the hot dusty roads hundreds of miles in this way, without being the worse for it; doing at least his two, sometimes his three hundred miles in a week. A hundred miles and more in one twenty-four hours have often been

accomplished by a bush horse upon grass food. All this he does without breaking his constitution or hurting his feet; for the climate supports his vigour, and there are no metal roads in the bush to ruin his feet; he does more work than most English hunters are asked for, and he leads the life of a gipsy's donkey; many hundreds and thousands of miles he has travelled, many hunts after stock he has enjoyed; droughts he knows, and floods he has escaped; various men and manners he has met with, many adventures and escapes; and he lives to a good old age.

His saddle is peculiar. It is very strong and heavy, say twenty-four pounds. It has enormous knee-pads, very high up and far forward; the cantle far back and high; the seat very broad, and the pommel very low. Short stirrups must be used. It is admirably adapted for rough country; but not for flat plains, or for travelling journeys. The weight of the rider is thrown too far back upon the horse; the stirrups are not much used, and the horse has the weight upon the wrong place. Consequently the bush horses have very often, indeed generally, sore backs; these are always galled under the seat, far back, and never near the withers, where the weight in the stirrups falls, or ought to fall. These short stirrups are not required in flat country, nor upon journeys; and a lighter saddle, with long stirrups, and removable pads instead of stuffed saddles, would save the horse considerably. He does not receive much breaking-in; his rider must teach him his paces for himself; and as he is not broken with a curb, only snaffle, he is as a rule hard-mouthed.

CHAPTER VII.

Soils and situations—Breadstuffs of Queensland, New South Wales, Victoria, and South Australia—Wheat—Wine—Agricultural settlement.

To understand the value of cultivating the soil of Australia, the configuration of the country must be kept in mind. A large plain, or shallow basin, dipping towards its inland centre; walled round by ranges of moderate altitude on all except the south-eastern aspect; leaving beyond this rampart a narrow strip of coast land on all but the southern shore. This wall, a well-marked meridian range on the eastern coasts, slopes more gradually inland than coastward. It is rent and interrupted by many volcanic outbreaks, having had long floods of basalt swept over its western slopes, which are now rich soils, and often wide tables of trap resting among its angles and summits. The eastern slopes are less rich in soils, more steep, less useful. They are sometimes mere walls of barren sandstone, generally defiles of Silurian clays, through which streams hurry seaward, leaving a few small alluvial meadows in the angles of the ravines, rarely forming a wide rich valley until they are near the ocean, and then often having too small a passage for surplus waters—too often flooding all their valleys. But the south-eastern angle of the country has a higher rampart, and it is situated some distance inland. The great Cordillera trends westward here, forming the frontiers of New South Wales and

Victoria, and leaving all the latter colony on the seaward side, sheltering Riverina from the south wind, and by its snowy summits condensing the rain-clouds on the Victorian slopes. Here too the range has been much interrupted by volcanic action, and splendid fields of lava and trap have been made far down the slopes, over wide plains, down almost to the coasts. Melbourne has the finest land at its door; not far inland, across a range. On the southern coast, in the colony of South Australia, this Cordillera is discontinued, or only partially reappearing; and it resumes meridional positions, not parallel, but at right angles, to the sea winds, offering no resistance, and giving that country smaller rainfalls. This tract is exceptional, but has good soils, and by other reasons is the greatest wheat country in the colonies.

There are, therefore, three zones of land,—the eastern slopes, the tablelands and western slopes, and the inland plain, far down these slopes, where the rivers become languid and weak. Beyond these divisions there are those of temperature, as determined by latitude and elevations, increasing northward, decreasing with elevation; so that the coast grows produce which the inland tablelands cannot. As the settlements extend into the tropics, the produce of Queensland is tropical on the coast—sugar and cotton; but as the interior rises to an elevation of 3000 feet at Darling Downs, that district is a wheat country. New South Wales, too, grows maize largely on the coasts, but generally wheat and oats in the interior higher country. There is, however, a division of produce, made by nature, much more striking and important than any divisions of the territory into colonies, and that had better

be accepted in considering the produce—the division into temperate and tropical.

The temperate produce is most important to us, as being within the compass of European labour entirely; it includes all breadstuffs used by them; whereas the tropics yield most to tropical labour, necessitating another order of things. Of temperate produce every colony contributes largely, supplying the wants of each other, and now leaving a large surplus for foreign exportation; and in reviewing it each province may be examined separately as to its yield. There are the coast valleys of New South Wales and Queensland growing maize; their tablelands and interior yielding wheat; there are wide wheat lands of all the southern colonies, each supplemented by some crops peculiarly their own, and grown on different soils, under various circumstances.

On the Darling Downs we find the most northern wheat fields. This is a volcanic tableland at the back of Brisbane; it spreads westward over an area of many thousand square miles, falling then gradually inland, drained by some of the sources of the Darling river. It has an elevation of about 3000 feet in the 27th parallel, is on the top of the watershed, having uninterrupted exposure to sea winds of that elevation; the soil is rich, the temperature varies from a semi-tropical heat in summer to many degrees below freezing in winter, the rainfalls are irregular but considerable, from 60 inches per annum to less than half that. Now this is naturally an excellent wheat country; there are probably very few finer wheat lands to be found on the face of the earth; but it is only of late wheat has been tried here. It has hitherto been a wool country; but wheat is now grown,

and yields well, from 19 to 22 bushels per acre; while the great extent of the field is as yet unopened, and possibly never will be opened. For this land has, at various times and under different governments, been acquired in freehold by the squatters, and remains locked up as wool country—here we approach the *casus belli* in colonial politics, the land question;—but this must be discussed again. Suffice it, that this tract does not grow much wheat, and undoubtedly it could. It produces, however, in addition to the wheat, some maize, which is coming more into favour than wheat among the farmers; the quantity has increased considerably in the last two seasons, whilst, as a reason we may presume, the disease in wheat known as 'rust' has appeared in that crop. Then again, the large quantities of maize which used to be grown upon the coast lands below this tableland are not increasing, but apparently yielding ground to cotton and sugar. Maize is the simplest crop to raise, but it is the cheapest, and has not many uses in the colonies. It is not used for food as in America; the Australians will eat none but wheaten bread. Animals are never housed in the country, winter nor summer, except horses for exceptional work; and beyond the towns, where this is absolutely unavoidable, little maize is consumed; but in the towns north of Victoria maize feeds most of the horses.

There are immense supplies of this crop yielded by the Clarence and Richmond rivers, two streams which run short courses from the frontiers of Queensland and New South Wales, having rich valleys at their fall upon the coast, with an equable climate, and a regular if not heavy rainfall. And at the back of their sources again,

another tableland extends westward, as elevated as Darling Downs, as exposed to sea rains, but a broken country instead of that rich field of volcanic soils. This is New England, a district not unworthy of its name, and for more than a generation a favourite field with settlers. Most available land has long been freehold here; more breadstuffs than they could use have annually been produced; more fruit, dairy produce, and all farm yieldings have annually fallen to this favoured spot than they could sell; and it is only now that a railway is approaching to relieve them of some of their belongings, and bring a little money instead. Much of the land here is good, and the climate is of the best, although by Australians it is held to be too wet: much, however, is of poor granitic soils. The country falls westward, also drained by heads of the Darling river, and more fine wheat land is yet available down these slopes; the only question is the rainfall—Is it sufficient in quantity, and more particularly in its regularity? Some of these slopes are held for wool-growing permanently, some again are under wheat, and both have produced wonderful crops; there are paddocks here which in fair seasons carry many sheep per acre on natural grasses, and yields of wheat have been harvested of 50 bushels per acre.

South of this, the only remarkable valley on the east coast is that of the Hunter river. The ranges from which this river heads are more inland, and its course is not confined by gorges as it approaches the sea, as in the case of the Hawkesbury and other streams south of it. The Hunter has a magnificent agricultural valley, and raises a very large proportion of the food for man and beast in New South Wales. This not only by fattening for the large

markets of Sydney and the coast, and by wheat, but by growing most of the hay and grain used in the stables of Sydney. The meadows of the Hunter are under lucerne for miles; maize never fails; and these two crops are very largely shipped to Sydney. Beyond this valley no great crops are yielded upon the coast. Each stream has, of course, some meadows in its angles, and all have a climate for wheat and maize and fruit. Near Sydney, the Paramatta river grows immense quantities of oranges, and these orange groves are one of the sights of the country; the port of Melbourne is said to pay 50,000*l.* annually for a portion of this crop.

Besides these valleys, there is almost no productive agricultural land on the east coast. The slopes of the Cordillera have had few volcanic interruptions on the east, and they are often very steep; it is principally at the base of the hills and in angles of ranges that we find any extensive crops. South of Sydney, from Illawarra to Berrima, dykes of basalt occur, and some remarkably rich farms may dot the mountains, but they are exceptional; while again, nothing could be less productive than the soils immediately surrounding Sydney, wretched white sandstones. South of Illawarra, the range which divides the inland from the coast rivers comes very near the sea; it rises very abruptly on that side, and most of the streams have short courses, limited valleys, and small crops; they grow wheat, maize, and potatoes.

Rising upon the abrupt slopes of this watershed, here we find another splendid tableland upon the summit, extending some distance inland before it falls gently into Riverina, drained by the Murrumbidgie river. This is Ma-

nera; high, bleak, cold, and exposed. Rich in soil, but harsh in climate, it produces better men than crops; it is all a wheat field, but by reason of late frosts and dry winds from Riverina, perhaps wool is, on the whole, considered a safer crop. Oats are grown largely, wheat less, and the finest meat in the Sydney markets is from this district; while the strongest race reared in any other part of the country will not surpass in physique the natives of Manera. But the heads of this watershed are not so different in soil from those of other inland streams, as in temperature and exposure; for the heads of the Lachlan, the Macquarie, and of the Namoi, all tributaries of the Darling-river system, alike rise in tracts of downs, of the richest soils, beautiful climates, and ample rainfalls for growing wheat. Upon these downs are the old and rich settlements of Goulburn, Bathurst, and Liverpool Plains; all are rich in wheat, oats, maize, and the most familiar crops.

The proportion of the land cropped in New South Wales which is devoted to wheat is fully one-third; somewhat less is under maize, another large proportion under food for cattle; and among the remaining produce we find many products of many climes: there are tobacco, sugar and arrowroot, vines, beetroot, and hops. The vine covers large areas in all parts of the southern colonies, and perhaps is particularly suited to New South Wales, for it loves dry stony ridges in a dry climate; it will grow best where no floods can reach; and a large portion of this colony is of that description. Comparatively poor clay ranges, unfit for wheat and difficult of cultivation, fill wide gaps between agricultural settlements, and if not put under the vine, they will probably never be tilled. But

the vine requires a large capital to begin with; it produces a crop neither necessary nor as yet popular; and this crop requires a still greater capital to bring it favourably into the market. Time, experience, and capital, neither of which is as yet available even when tastes are formed for the varieties of wine, are absolutely necessary for the vigneron; and the colonial tastes are still for British strong drinks and beers. Capital and experience are not applied to the storage of wine until it is fit to drink; but the crop is hurriedly pressed, forced into the consumers' hands, and if doubtful, it is fortified strongly with alcohol. Many objections are made to colonial wines; as, for instance, that they contain too much malic acid; but the great real objections are that, although they are infinitely superior to much of the brandied sherry and sour claret often imported, yet they are very much dearer by the time they reach the consumer, and that they have peculiar tastes of their own soils and climates which have not yet been appreciated generally. It is beyond doubt that wines can be produced in Australia comparable to those of the Rhine or the Garonne, but they cannot be produced nearly so cheaply; they are not treated so carefully in cellars; and, in short, they have yet to fight their way into consumption.

Wheat and maize have been the principal crops of New South Wales, and are annually extending largely. But there are many drawbacks to this industry, all resulting from the seasons. Droughts followed by floods ruin a very large proportion of the wheat crops annually; sometimes the colony will suffer generally, but as a rule one or more districts suffer particularly every year. Frost has

also reduced the yield, and so has the continued cropping of lands—the annual withdrawal from the soil of ingredients never returned. For nothing could be simpler than the farming of a colonial settler, or the ordinary immigrant of any new country; it is not cultivation, for he does nothing for the soil; he removes the trees and dead timber, but generally leaves the stumps; he ploughs after a fashion, but does not trouble about roots and large stones; he scratches the soil, sows and reaps year after year; he neither cleans nor manures nor drains. Hence, the small settler does not make much, upon the whole, out of this dry uncertain climate. The first year's crop may be 40 bushels of wheat to the acre; the next better; then a flood or a drought may save the soil a little at his expense; but in a few years the average crop is down to 20 bushels; and in the course of ten or twelve years he may be glad of 6 or 8 bushels. At one time the government used to collect statistics of the yield of crops by simply asking the farmers how much it was per acre, in printed forms to be returned at the farmers' pleasure; and the results gave figures of very little use, for if a farmer's crop failed he naturally said nothing about it. But of late the returns are taken of the acres under wheat, and separately of the wheat harvested; and these give a small average for the whole colony. For the seven or eight years ending with the returns of 1872, the average crop of wheat in New South Wales is under 12 bushels per acre. For the same reasons the crop of wheat in Victoria was about 16 bushels in a similar average. Uncertain seasons, bad farming, and an always-decreasing crop in any one farm, reduce the average; but Victoria, being a newer

field and having greater rainfalls, has a better crop than New South Wales. These yields are surprisingly small to one less accustomed to colonial ways than to inflated accounts of virgin soils and the prodigality of Nature; but they are not true of Australia any more than of any new country. The ordinary idea of simple swains settling in a rich country, growing ample crops from never-failing soils, and living the life of happiness described by emigration agents, is not found true in America nor in Australia; for the small settler, as a matter of fact, has a desperate struggle at first; and if he conquers Nature, he shows no mercy; if he gets his land under any sort of cultivation, he takes all he can out of it. Hence, the old States of America show far lower returns than any in Australia of the yield of wheat per acre.

The greatest wheat-producers, however, are not those who get the heaviest crops; as in all things, labour and perseverance are the real producers. It will probably be found that more is made out of poor than out of fertile soils, and the richest people have not the richest countries. In the matter of wheat in Australia, this is certainly shown by the colony of South Australia. They have not a large wheat country easily cropped, although the grain grown is of the finest character; they have, on the contrary, less rich land than their neighbours; they have much less rain, less population, and they have also other industries. They grow a great deal of wool, raise copper, and have many other outlets than wheat-growing. Certainly many more profitable industries are to be found in the other colonies than here; their resources are far less than those of any other colony in the country; but their population is so

much less, that there is some reason to believe it, on the whole, to be much more steadily industrious; for they grow an immense crop of wheat, in a limited territory, under the smallest rainfalls, and with the smallest yields. They have not much new land annually cropped; Nature does less; and they work more in the wheat field than their neighbours. Possibly this is by machinery and better systems; but the work is done. Having average rainfalls below any colony, they reap crops not much more than one-half as heavy as those of Victoria; yet supply all their own wants, and supply most of the deficiencies of all the other colonies, which are large in New South Wales and Queensland, and then can ship upwards of 150,000 tons to Europe. That South Australia should produce so much wheat is not remarkable; but it is striking that here, of all the colonies, the total yield should be greatest, while labour is not perceptibly cheaper. Many reasons are given for this; of which the most satisfactory are, that there are fewer outlets for industry, fewer temptations to unsteadiness—for they have no gold-fields—and that they have a considerable proportion of the steadiest immigrants. These immigrants were not the importations of the founders of this colony, but steady plodding Germans, who came here to grow their bread and their wine, and have done so. These are much less easily diverted by new hopes and promises than other immigrants, although many of this lot have of late immigrated again to new lands at Albury, but they really make homes and settle the country, instead of trying to make money anyhow, in the usual Anglo-Saxon fashion; for they have settled as steadily in the United States and in Brazil.

This is no prodigal Nature, nor abundant harvest; there is a wage for labour and patience, and nothing more. There is no Arcadia nor Dorado, neither plenty nor happiness, here as elsewhere, except by work. No blessing belongs to Australia more than to any other land beyond that of health, except the great blessing of plenty of work; perhaps it is the greatest blessing of all—'for God in cursing gives us better gifts than men in benediction.'

It is said that crops of wheat have been profitably grown in South Australia, in a season which had not more than 8 inches of rain; but that is an instance only, and beyond doubt an exception; while that same district has a fair average rainfall, and received this short supply at the best time for the wheat. The growth of the crop therefore depends no more upon average rainfalls than average temperatures; it depends upon the minimum and maximum of both moisture and heat. When seasons are regular, and both powers pretty constant, it is a safe investment; but where droughts and floods occur, some bad years are inevitable; and the only question is—how many of these exceptional failures can be submitted to and survived? The average rainfalls give some guide, but not a sure one; the number of droughts and floods is the test. This frequently may be guessed from statistics already taken, but only in the older settlements; and we cannot yet know the probable limits of wheat down these inland slopes of the great plain. Settlers have persevered for some years now in growing wheat at Dubbo, far down the inland fall, 180 miles from the sea, where the average rainfall is, in all probability, much less than 20 inches.

As to the extent of wheat country yet to be taken into

cultivation, that is limited by the rainfall only. Immense stretches of fine volcanic soils cover the downs of the inland slopes of New South Wales, extending down westward for 200 miles, with a meridional width of nearly as much, all of which have soils and temperatures adapted to wheat; north of which, west of New England, and again west of the Darling Downs, wheat could be grown, if there was a more steady rainfall. But the supply of moisture is always small, and never constant. It may average 20 inches per annum say 150 miles inland, but that signifies in Australia that it varies from 8 or 10 to 40 inches; and in the years of drought there will certainly be bad crops, while in the years of heavy rains there might be equally disastrous floods. Taking good and bad years together with tolerable seasons, the growing of wheat is seldom pursued now where the average rainfall is less than 20 inches per annum; except in South Australia, where it is persevered in under much less favourable circumstances.

Irrigation will not likely do much for Australia. In the first place, there are not sufficient rainfalls; next, the natural drainage is not quick enough to save a large proportion of this fall from evaporation; and unheard-of reservoirs would be necessary to store water for agriculture, in a land where droughts may last for two years, without dew and with intense heat. All Riverina has very little rain; it averages over 10 inches in few spots, we may presume; and this is not collected quickly, but rests upon the flat plains until it is evaporated, or at best only passes down the main arteries at rates of two or three miles an hour. The small decline of these streams would facilitate irrigation, were there good fountains to draw the supply

from, but there are no such sources. The only fine supplies are those of the Murray and Murrumbidgie, these are the only constant running rivers, and all their wealth would go a very short way amidst the wide poverty of the lower plains. A fine scheme of irrigation was lately proposed in Melbourne, by which immense tracts were to be made more productive, and it looked well; the levels were all right, the benefits indubitable; but upon its being submitted to the notice of an eminent hydraulic engineer, one mistake was pointed out—there was no possibility of finding all this supply of water.

There is plenty of land to till, and it will yield the labourer his food; there is plenty of it, and easily obtainable; and there is no truth in reports sometimes heard, that the best lands of these colonies are locked up in the hands of squatters and capitalists. A very small fraction of the country is sold or granted at all; nearly all has yet to be taken, and is for actual immediate sale to the first who wants it. All colonies except South Australia, which has little to sell, hold their lands open to 'free selection before survey;' which is to say, that any man can look out for himself and select any piece of ground as yet unsold, and that piece he may have at once for a few shillings per acre. He may select any land leased, anything not actually already alienated, in quantities and at prices varying in the different colonies. Queensland sells land in considerable areas very cheaply, but this is for grazing; the other colonies limit selections to a few hundred acres at prices at or within twenty shillings per acre; they sell directly from the Crown, not through railway or any other companies, and they facilitate all surveys, transfers, and means

of settlement. There is really no difficulty to an immigrant in obtaining a home; the difficulty is to make it permanently a home.

Let us suppose a small valley at the base of one of the ranges in New South Wales, and take the history of its settlement. Suppose it has rich alluvial meadows after it leaves the limestone ranges, all leased of course to a squatter; within twenty miles of a market town; joining to another large valley, where the streams meet, and of which much has been cultivated for years. After the completion of a railway in the district, some of the successful small contractors in the work select here, and establish themselves; these have each 200*l.* or 300*l.* Immediately one or two sons of neighbouring small settlers leave their homes, and start for themselves here, with little or no capital beyond their working cattle; and one or two more selections are made by strangers who were unsuccessful elsewhere.—What will be the result in a few years? If these men are steady and persevering, they will succeed; they will merely live the first year or two—live in poverty and hardship; by that time they will have some ground in good order and be more confident; next they will be nearly ruined by seasons, and have to look for support and means to carry on the farm by doing other work—by carrying on the roads, or by hiring to some richer man. But if these settlers are not persevering, if they listen to any tale of a new goldfield, or of the high prices for carriage paid somewhere; or if they will not submit to some hardship and perhaps want, they probably abandon the selection. No trial is so severe, or used to be, as that of a 'new rush' to some

newly-discovered gold-field; these rushes used to depopulate small settlements, and render many men quite unsteady for their lives. It is certainly a good fault of the country, that of an *embarras des riches;* but it is a very serious evil to the community and to the individual, and left only the steadiest of labourers to agriculture in the earlier years of gold raising.

Probably, one by one, half the settlers left this valley in five years. They got into difficulties with the squatter, who declared they stole his cattle, and did not hesitate to say that they lived by their cattle and sheep, and not by wheat or maize. For all selectors have a right to graze stock upon adjoining ground, previous leases by government being set aside in their favour, and all selectors have stock; so that many select land for the sole purpose of securing a good grazing right; and troublesome neighbours the squatter, if possible, bought out as soon as they were in difficulties. Others again, when their crops failed, got assistance in credit, for their sustenance and seed for next year, from the storekeepers or merchants of the market town. If the next season was bad—if the flood followed the drought—they abandoned their homes, and left debts and mortgages with the merchant. Others probably took charge of a flock of sheep from the squatter upon terms; becoming responsible, and finding pasture upon their selection and grazing right, and receiving a share of increase and wool. So that in a few years, of the 600 or 800 acres sold upon this valley by the government, at merely nominal prices, there are now three or four patches of wheat and maize, occupying not 100 acres, and a number of cattle, horses, and sheep kept by the grazing rights.

Deserted homes, dilapidated buildings, fallen fences, and sprouting stumps mark the labour and money spent in vain; while perhaps one family have been deserted, and left desolate when the starving selector went off. There remain of all, perhaps three families—one which survived by the settler being a carrier as well as having this selection, and the other two by grazing; there is no return whatever for all the labour and money spent upon the other selections; the government sold these, and they produced nothing.

This is no unusual state of things in this country. Deserted free selections are most prominent features in the landscape of any part of New South Wales. It has been asserted that one-third of these selections have been abandoned, unproductive; to which it has been replied, that the number of forfeited selections, as shown by government returns, disprove this, and that very few have been deserted. For a selection must be made the home of the selector for years before he can get a title, otherwise he forfeits the land, the payment and all. But still the deserted farms are everywhere visible to the traveller; and the two facts, if true—of titles being all completed and so many farms being desolate—can only be reconciled by the settlers having struggled on long enough to obtain this title, to enable them to sell or mortgage the property. All these deserted farms are not, however, claimed by country storekeepers, squatters, and other neighbouring settlers; many are absolutely deserted, and most have been the means of losing labour and capital. That selectors survive their struggles best by grazing, is illustrated in Manera, where, by a skilful arrangement of

selections contiguous at one important point, and by happily planned grazing rights, some small selectors have formed sheep stations, carrying 8000 or 10,000 sheep; and these men have done better than any other class of selectors. That a selector can leave a means of gaining a livelihood, hard but pretty sure, for one more productive, is most fortunate; but it is a pity that he spent his time and money in experimenting, in a new soil and unknown climate, in a business of which he probably knew nothing; it is more lamentable that he should be left uncared for, and his children uneducated when he is making these experiments; and yet more so that governments should encourage and maintain this waste of labour and capital, and this increase of ignorance.

CHAPTER VIII.

Tropical agriculture—Cotton—Sugar—Brisbane—Mary river—Mackay—Rockingham Bay—Polynesian labour—Queensland law—South-Sea settlements—The Fijis.

THE tropical produce comes only from the coast lands, and from Queensland we may say; for all the sugar grown on the northern coast of New South Wales is insignificant. The sugar-cane will grow from the 30th parallel northward on the east coast, but with varying success until the 22d parallel is reached; and cotton will grow on all the coasts, if not on many of the tablelands of Queensland, although it is not always a profitable crop. This staple was taken under protection by the Queensland government when the supplies in America failed, and, under the advice of some English manufacturers, much attention was given to it. A bounty was actually paid upon the quantities exported for some years, and every facility given to obtain land for its cultivation. But India and Egypt came to the rescue of the manufacturers, the price fell, and then neither bounty nor cheap land propped it up; for the bounty was after a time withdrawn, and the land for growing the cane was offered as cheaply; but still the cotton yield has increased. It is the favourite crop of the country at the foot of the tableland, at the back of Brisbane, where the area under cotton has increased from 1500 acres in 1868 to 10,000 acres in 1872; it is the favourite crop here,

but has elsewhere given place to sugar. For nearer the coast about Brisbane, the land under cotton has actually decreased in quantity, while it has increased for almost every other crop, notably for sugar; and some districts farther north are now neglecting cotton for the sugar-cane.

This crop has made wonderful progress. From being a languishing exceptional industry, carried on for many years for little result near Brisbane, the cultivation of the cane is rapidly becoming the second industry of southern Queensland, and the first of the north. Since 1862 it has steadily risen in favour, and encouraged by cheap land at deferred payments, by a protection of 5*l.* per ton, and by the importation of cheap tropical labour, it has increased from that period to a crop of 3000 acres in 1868, and of 9000 acres in 1871, till the crop of this year, 1873, will supply all the wants of the colony, a population of 130,000. There is plenty of good soil in all parts of the country, and there are very heavy rainfalls at many points of the north-eastern coast; but these two characteristics must be found together for successful sugar-growing; besides which, facilities of communication and a cheap rate of carriage to market are required, and abundance of cheap labour is indispensable. All these conditions are difficult to find at one and the same spot. Good soils and cheap carriage are naturally found in rich alluvial valleys at the mouths of rivers; but to find this point under a heavy and a tolerably certain and regular rainfall is not common; hence sugar has not succeeded in all the localities in which it has been tried. Good soil has sometimes tempted planters under fair average rainfalls, but one or two droughts or even dry seasons will ruin a rich plantation.

Unlike most crops, as wheat, it takes two seasons to be established, so that one dry season may ruin two crops; while altogether it requires a larger capital to form a profitable plantation. Hence all sugar plantations are on the seaboard, on the richest soils, under the steadiest and often the heaviest rainfalls in Queensland. But they are not all large concerns. In the neighbourhood of Brisbane, a centre of population, a large proportion of the land under canes is held by small men; these hire little or no labour, and grow a little cane, while their standby is maize or cattle. Grazing and maize-growing are always safe, and command immediate returns, whereas sugar is a crop they know nothing about, but that every one says it will pay; they grow cane to sell to a sugar-mill, and very rarely crush at all.

Upon the Logan river, and generally on the coast about Brisbane, all the necessary conditions of soil, temperature, and rain are obtained in an eminent degree: rich alluvial valleys, regular seasons, sheltered from the more dry interior and its blighting air by an abruptly rising range of great altitude, and having a rainfall at Cabulture of sixty inches or more; in a temperature somewhat like that of Madeira in its average and its extremes. Here more than one-third of the crop of the country is obtained in yields of from one to three and a half tons per acre. The next sugar settlement is on the Mary river, two degrees farther north. This district has soil and heat sufficient, but it is not so well sheltered from the interior, the dry winds of which often sweep down on to the coasts and absorb moisture before it is condensed into rain; so that here the production of sugar is not nearly equal to the proportion of good land, and has not

been such a success as farther north at Port Mackay. This is the finest piece of sugar country yet opened in Australia, and it is not at all likely that any better will be found south of it. Here the country naturally carries a more rich and tropical vegetation, in palms, &c., than at any southern point, while there is a wonderful regularity in the supply of moisture and in temperatures.

South of Mackay sugar is one crop among others; it is assisted or supported by maize and cotton, or it has a hard struggle; but here, and north of this, it is the only agriculture we may say. It is the one business of Mackay, which port, although it has sufficient shipping, exports very little wool or tallow, or anything else than sugar and rum. The yield is remarkably high on the whole, and brings the average crop of sugar in Queensland, dividing the produce among the acres of cane cut, up to two tons of sugar per acre. Nor is this article of coarse inferior quality, but the yield of the best and most approved machinery and methods, imported by experienced planters from Mauritius and other sugar countries, many of whom have invested largely. Mackay planters furnish a rare and almost singular instance of pioneers being successful commercially. They were men of experience and of capital; liberal inducements were offered to them by nature and by government, and they of course had the choice of this field. But how many pioneers in all new undertakings, particularly in new countries, have all these advantages, yet something unforeseen upsets all their calculations, to their ruin! This is perhaps the one exception of northern Queensland. From the first the Mackay planters have succeeded. They invested heavily, some plantations sink-

ing 15,000*l.* to 20,000*l.* before they made any sugar; they imported men of an unknown race of savages, and found them first-rate plantation hands; and it is said that they have in some cases already recovered the cost of their plantations, and that they can grow sugar at 15*l.* per ton. There is a considerable population at this settlement, all dependent upon sugar, and it is a spot by itself in Australia. The appearance of the plantations, the labourers, and the life led, may be seen at any plantation in the south; but always these features are toned down by the intermixture of other colonial belongings; here the scene is more completely of a sugar country, and quite unlike squatting or wheat-growing or mining districts. It is a brilliant success; but it has led to a great deal more land being purchased along the neighbouring coast than will ever be under sugar; for the situation of Mackay is peculiar, in that it obtains very frequent rainfalls; and nothing could illustrate the dryness of Australia generally than to define this peculiarity as it is there considered—it is, that seldom more than a fortnight passes at Mackay without rain. It has a range rising at its back to intercept rain-clouds, and being near a point where the coast-line turns still more to the west of north, a given radius from Mackay will pass over more water than from most points.

The only district at present producing sugar north of Mackay is Rockingham Bay, in the 17th parallel. This is altogether a tropical country; tropical in seasons, in rainfalls, in natural vegetation, and only fit for purely tropical produce. When it was first entered by planters it was justly considered more like sugar country than any other

known; for the soils of the valleys there are as rich as possible, and not inferior to Mackay, while the heat and rains are proved to be greater by the vegetation. But the first essays drove many pioneers back; for such extremely heavy rains came with the wet season, that they abandoned their ratoons and their improvements. However, a few months after, the cane put in was discovered to have grown into a thicket, twisting and twining into lengths of eighteen feet. a perfect jungle of luxuriance. Possibly the quality may suffer by the quantity, the immense amount of fibre may contain a small proportion of saccharine matter, but still the luxuriance of growth is not likely to overcome man, or it will be a strange freak in this land. This is however the richest tract the vegetable kingdom contains, in soil and climate; for here, in the richest land, a tropical heat is only interrupted by a tropical wet season, and the rainfall of 90 inches reported in the year 1871 is perhaps not exceptional.

So far the cane extends north; but there are many more fields beyond this, perhaps as well adapted for its cultivation. All along the north-east coast, all the shores of Carpentaria, of the whole of Northern Australia, extending over thousands of miles of seaboard to the settlements of Western Australia, are in a climate well suited to it. Heat and rain are tropical, in quantity and regularity, over all these shores; although many barren stretches of coast will occur, yet there must be many rich valleys, formed by the washing down of the ranges and tablelands which wall off the whole of this seaboard from the interior. Many streams come through walls of sterile sandstone, some from poor granite, and some in Carpen-

taria have too little fall to do more than form mud flats, subject to inundation; but many drain volcanic formations near the coast in the York Peninsula, and many portions of Arnheim's Land have broken coast country, which must contain some rich tracts in spite of the sandstone interior. There is a settlement now being formed in Arnheim's Land, where the telegraph cable lands; and if suitable labour is obtained, which can easily be done by its proximity to Asia, a large production of this staple may be established here in a few years.

The main question is labour now. It is found that sugar can be profitably grown over a very large portion of the country, and it has only succeeded by cheap tropical labour. Certainly nothing will make the cane flourish in the purely temperate latitudes of Australia; for it is a particularly trying climate to vegetation, in its extremes and its aridity; so that if New South Wales wishes to grow sugar, she would do better to try the beet like Victoria. For the aridity of the climate may act in various ways beyond the want of moisture, and it does this notably in the sharp frosts which sometimes visit the country. In the winter of 1872 a sharp frost was experienced on the very sea-shores of Rockingham Bay, a purely tropical situation which frost can rarely visit for the native vegetation to exist. At Mackay a portion of the cane was destroyed; on the Mary river some planters were driven by repeated frosts to abandon the cane; and Brisbane suffers severely from these dry frosty winters; for the cane is very delicate. Therefore it is not probable that any labour will make this a profitable crop farther south than Queensland. At Brisbane the cane has been grown

for twenty years, and sugar made upon considerable scales by one or two planters; but they only struggled on, they did not prosper in the venture; they might triumph over all other obstacles, but no sugar was grown to any extent at Brisbane or elsewhere until cheap tropical labour was applied to it. Since that it has risen into an importance in Queensland next only to wool, and next year will show a large export.

It is true that, if white men can labour in a wheat or cotton field anywhere, they can as well work in a cane-field; but white men can only work well in such climates as the cane will not flourish in, on account of want of heat or severity of winters. And, in addition to a poor crop, the planter will be burdened by heavy wages; heavy, because his competitors, the sugar-growers in every part of the world, pay the lowest wages; for it is impossible ever to get white men to live so cheaply as the natives of warmer countries, therefore they can never be hired at such low wages. The better the climate is for the sugar-cane, the worse it is for the European, and the better for the coloured races. This difficulty was foreseen by all practical planters before they invested in sugar-growing in Queensland, and until a remedy was found no capital was backed by experience. But the popular feeling of the labouring classes was of course dead against it; they did not wish their own property of labour to be depreciated in value, for they never know that fields of labour are generally practically unlimited; that work makes work. It would have been impossible to have introduced coloured labour to Queensland had the population been larger, the franchise lower and more exercised. But at that time

all labour was high, even for the colonies; there was no possible pretext to oppose any immigration, and the government of this colony has never fallen so much into the hands of extreme popular leaders as the southern colonies. So permission was obtained to import cheap labour; and sugar-growing became established, as it never was before, or could have been otherwise.

Some years previously a few Bengalese had been introduced, and did not give satisfaction; Chinese were already in the country, and were neither very suitable nor cheap for this work; so that the importation of the nearest tropical races of Polynesians was decided upon.

This importation was very carefully provided for by regulations, and so were the treatment of the immigrants and their return home. It is provided that no vessel shall recruit labour for Queensland except by and through an agent appointed by the government; this agent accompanies each ship, and can bring only the number specified in his instructions; that upon arrival he shall produce certificates—signed by a consul, or missionary, or other responsible person—for each man landed, that this islander had quite voluntarily signed an agreement which he perfectly understood. The agent and all on board the ship were liable for breaches of this act, and the captain had to execute a bond, under heavy penalties, that no attempt at kidnapping should be made. Upon their arrival these labourers were put under the special supervision of the immigration office and of the police magistrates of the various districts they went to, who had to see that they were properly treated. A scale of rations, clothes, and of more than all necessaries was fixed for their allowance;

no man could be transferred from one to another district without permission of these magistrates; and at the end of three years all had to be returned to their homes, free of all expenses and charges of any kind; no deduction from the amount of their stipulated wages was allowed upon any pretext. Under these laws as many as 4300 Polynesians from many groups of islands had been imported up to 1871, of which 2700 had by that time completed their service and been sent home; since which very few have come; and now their importation has practically ceased, and planters are looking to Malabar and elsewhere for labour.

Now the good faith of Queensland in this Act has never been doubted; it would have been their worst policy to have spoilt their only known means of getting cheap labour, had they no better principles; nor has it been shown that they were remiss in enforcing these regulations. But natives of the South Seas having been kidnapped, and Queensland being a known importer of them, without more inquiry she got the blame of all. There were other reasons too for her being blamed. The southern colonies, or their papers which wish to please the majority and the politicians who serve their masters, condemned the system from the first. They often said that if sugar cannot be grown by white men, better not grow it at all. Then a large class of people are enthusiastic in missionary enterprise, thinking that missionaries only and invariably can improve savages, and that to teach them to work, except in the mission garden, is only to demoralise them; this class generally speak as if they had a mortgage upon Polynesians. So that whenever any man-stealing in

the Pacific was heard of, it was laid at the door of Queensland, and a cry of 'Queensland slavery' was raised. Such popular outcries are not always limited by truth or reason, especially when they tend to show 'how much more righteous are we;' and it was generally pretended by the Australian press that the planters simply sent ships, without an order, to steal men, who were inhumanly treated as slaves, and never sent home. Nor were the Queensland newspapers behind in encouraging this idea; they openly derided the idea of the islanders ever being sent home, and joined in the popular dislike to cheap labour.

Ships were taken by cruisers in the Pacific engaged in illegal and sometimes inhuman practices, but not for or on account of Queensland; but all stories anent these captures were laid against her government and planters, and turned and varied into many fantastic shapes. One tale reached the Admiralty Court of Sydney in three forms so very dissimilar, that it was not till the close of the evidence that the judge discerned they had all one and the same origin. On another occasion a newspaper telegram appeared from Rockingham Bay that a cruiser had arrived, with a schooner she had picked up on that coast, which latter was 'waterlogged and gutted—having fourteen islanders 'starving and three dead on board—no food or water—'white crew murdered or abandoned ship.' Whereupon, in a few days, the first paper in the country came out with an alarming article against Queensland slavery. It said, 'We receive intelligence of a vessel waterlogged—a slaver '—being picked up off the coast of Queensland, with four-'teen emaciated South-Sea Islanders and the decomposing

'corpses of three others on board. They received all ques-
'tions in sullen silence, as they imagined they would be
'shot. They were evidently kidnapped by a Christian
'people, and were being transported to a Christian colony
'to perform servile labour for Christian taskmasters;' and concluded with quotations from the *Ancient Mariner* and *Don Juan*. Nothing could be more horrible than the state of this schooner; the men on board were Polynesians, and she was found near the Queensland coast; but the conclusion was by no means possible that she was a 'Queensland slaver,' and no more inquiry was made. This article was quoted and improved upon—'the slaves murdered the crew,' &c.—and it was echoed all over the colonies. Every one was appalled.—Then it came out that the vessel was a prison hulk from New Caledonia, which had got adrift from her moorings and been carried by currents on to the Barrier Reef, where she was found; this was the plain fact. The explanation was never disputed, but hardly, if ever, acknowledged; and the readers of this horrible tale of Queensland slavery probably believe it to this hour, with a very few exceptions. Kidnapping there is, and murder and violence, in the South Seas; there has been such for many years—and more than we ever heard or shall hear of—long before Queensland imported islanders, and likely there will be long after that traffic ceases; nor is she responsible for it. For Queensland is not guardian of the Pacific Ocean, and cannot answer for the doings of the innumerable outlaws, runaway seamen, and odd characters settled in the South Seas. She can bring all vessels coming to her ports to account, and maintain law among her own people; few

states do so better; but neither she nor any one can tell what goes on among those beautiful isles and summer seas; and over any transactions there, in her name or not, she has no jurisdiction nor control beyond her shores. The lawlessness and inhuman trading that has come to light lately is what none but a navy can control, and if the British and American cruisers cannot check it, certainly no colony can; and it is not at all likely that all these ships found with irregular papers, and all these cases of kidnapping, have been really undertaken for Queensland, or intended to enter her ports; much more probably the unknown settlers of many an odd corner in the South Pacific know the history of more than one raid and massacre.

Throughout all that Pacific Ocean there are the finest climates, in each latitude, perhaps known; there are innumerable islands, almost innumerable groups of islands, fertile beyond description; there are in nearly all the groups south of the Line races of simple kindly people; and these scenes have been familiar to whalers and seamen who trade by barter for generations. These scenes of repose and plenty are beyond the ken of any power over white men; the only law is ships' law, and beyond that there is neither restraint nor hindrance to a life of lazy happiness for the runaway seaman. On the south, Tahite, and Honolulu north, leave thousands of isles of eternal summer between these and New Zealand and New Caledonia, which are safe from all enemies of men but their own passions, and beyond the reach of all law. Wars and cannibalism are very rare in this South Sea, much less so than among the New Hebrides and northern groups.

Upon these islands hundreds of sailors, adventurers, and outlaws have long been established, and in every group one or more of such settlers will now be found.

These men sometimes only remain in an island for a 'spell,' sometimes for life. They live generally with the natives, and trade with and through them in cocoa-nut-oil and tortoiseshell. They may sometimes grow bananas or other fruit; but cocoa-nuts, breadfruit, and the sea supply more than their wants. In time knots of these adventurers get gathered together, and begin to grow cotton or some saleable commodity; then more come, buy land from the natives, and settle; so that gradually small colonies have been established in many odd corners of this great archipelago. No one can tell how many such settlements there are. The Fiji group have, in many islands, been taken up in this way, until they received a large access of orderly Australian emigrants lately, and have come into public notice. But in that group even we cannot tell what goes on, for it consists of hundreds of islands; while far south, from island to island, to the Navigator's group, those small settlers are scattered about, and independent of all and of each other. There are many extensive mercantile agencies in these seas—for the collection of cocoa-nuts dried for exportation, for the curing of the sea-slug for China, and other trades—as there were formerly for whaling.

A small squadron stationed at Sydney have been supposed to do the police work of these seas, but they have been altogether inadequate to the wide area they have to inspect; and even now that they are being reinforced by two gunboats, there is not a sufficient number of vessels.

America and France have also some cruisers there, but the bulk of the work falls to our flag, which has always been considered the sign of justice in the Pacific. More light craft would be of use there, but then other difficulties appear. If vessels are taken requiring adjudication by an Admiralty Court they must now be taken to Sydney; if native quarrels, or complications between natives and settlers, occur, there is no safe means of arriving at the truth, from want of local knowledge. This, and correct information as to laws and customs of the natives, can only be obtained from missionaries, who are seldom favourable to settlement; and as disputes will very soon arise now that settlers are buying land from natives, it is time some centre of authority was established in these seas, if only to maintain order more effectively. Now, this is the real claim of the Fiji settlements upon Britain: that they want a strong law, and cannot establish it of themselves; the law-makers are few, and some of their friends and neighbours are content to be without law.

All these difficulties would be met by a strong government being established in these islands. The islands taken into the settlement or colony would be able to enforce the law among themselves, if they only had the countenance of a strong power like Britain, and the settlement would be of the greatest use in controlling all those seas. The orderly section of the scattered community there have formed a government under the name of a native king, but they are not generally submitted to; they want weight. They have petitioned to be established into a British colony, and it is to be hoped, for the welfare of the South Seas, that their prayer will be granted.

It is not a mere handful of adventurers, but a considerable population, principally Australians, who have invested a good deal of money in growing cotton and sugar, and with great success; the exports are large and increasing. To govern this colony from Sydney is impracticable; for it is ten days' steam distant, in another climate, among a large unknown population, and having far other occupations, customs, aims, and difficulties; requiring far other laws than could be framed by Sydney legislators. The settlers could manage their own affairs best; all they require is a governor far above all local affairs, as colonial governors are, and a British flag; the rest they can do themselves.

There are many objections now popular to any increase to 'the Empire,' and they will doubtless receive their full consideration by the present Government. Native wars are perhaps the most unsatisfactory of any; all colonies manage somehow or other to cost the Government a little annually; it is not advisable to let it be supposed that outside adventurers are to be protected and encouraged, and the Empire is quite large enough already. But there is much less risk of native wars now that all colonies have been told to fight their own battles, and the military have been withdrawn; the cost of such new settlements is little more than the cost of protecting so much of our commerce, and adventurers neither know nor care if they will be protected; while the assistance such a settlement will give to our navy and commerce is alone sufficient to justify the formation of a naval station—which would cost as much as to call Fiji a colony. The Fijis are somewhat in the same position towards us as the Sand-

wich Islands are to America. Each are near kindred settlements, having a majority of the settlers from the parent state, and both want to be annexed. The Sandwich Islands were told by Lord Palmerston that they would gravitate to America, and must not look to Britain, and now their annexation to the United States is imminent; the Fijis in the same way gravitate towards us, and their annexation will most surely come about.

CHAPTER IX.

The land question—Defeat of squatters—Free selection—Views of landowners, squatters, and merchants — Losses by the system—Value of land—The agricultural settlers—Small graziers.

THE management of their waste lands has always been an open question in the colonies, and a standing subject of reform and debate. It occupied there much the same position and prominence which the extension of the franchise did here, and has now like this passed beyond the control or interference of the educated class. Political colonial leaders rose or fell as they managed the public lands; classes divided into Conservative and Liberal upon it, and it was the keystone of different policies and governments. Those were the days of the long conflict between the squatters and the general community as to who should be masters of the land; the squatters were steadily defeated year after year, and having been driven out of the field are now neglected in considering the question. They clung too tenaciously and greedily to their prior claims upon waste land, and justly considering this as the great industry of the country, did not allow the possibility of other uses being made of this large tract of leased land; they opposed all spread of population inland, denied that their runs were fit for anything but sheep and cattle, and succeeded for a time in stemming the democratic tide. But as the question arose into pro-

minence it widened into one of democracy against an aristocracy, of labour against capital; and, as in all such struggles, the victory went to numbers. As in all such victories too, there has been little or no moderation in the terms offered the defeated, but all and everything taken by the victors. Now the land is all held as fit for agriculture. Therein, as we investigate the subject, will probably be found the present error in the management of the lands; for neither the opinion the squatter formerly held, that none of the interior is fit for agriculture, nor the contention of the others, that all of it is capable of growing wheat, is true. The truth is between the two.

Other ideas beyond the mere economic value of land entered into the discussion, but were given more prominence by politicians than they obtained in public estimation. The practical use of the soil is one side of the question; the other view embraces all the sentiments which attach to land, and which make it the most cherished of properties, therefore again more valuable practically; and to say that it is difficult to combine the two ideas, the economic and moral, or practical and sentimental, so as to give each its true and exact value in the combination, and to embody the opinions of the community in its law, is only stating the difficulty of all legislation. But the difficulty has been encountered and overcome; the result being a very crude solution of the whole question. The law of free selection is now the general custom of the colonies, and will be considered a little farther on. In the mean time it may be advisable to inquire into the views of the immigrant, for whom all this is done; it is presumed that every land regulation

is to meet his view as a customer for land, more than for the better management of a colonial patrimony.

Some, indeed, pretend that is not a colonial but a national patrimony, and belongs to the people of England; but as Britain has undoubtedly given it over to the colonists to do what they like with, and as the people of all Europe are most welcome to come and have it at a merely nominal price, that view may be set aside practically. It is generally accepted as beyond question that the land belongs to the colonists absolutely, to do what they please with; therefore, some say, let us divide our property among us, and let each manage his own. Certainly this would save a deal of legislation for a time, but not for very long; and it is a very clear method of reducing the matter to a simple business transaction, of making it a high-and-dry question of political economy, and nothing more. But in a practical point of view, as a matter of business, it would surely miscarry; most people could not manage such property, and it would be better to employ a good agent; and as all proprietors of waste land are similarly circumstanced, it would suit most to have one and the same agent; so that the government would soon be found more fit to manage it than any other body. For to develop that property more population is required, and no private immigration agent can do so much as the whole community in the name of a government. Again, if any exceptional proprietors, after such a division, preferred to manage their own for themselves, they would in most cases be capitalists who preferred to wait. Such do not require their land to yield any immediate return; and rather than risk more by trying to improve it, they

would wait till neighbouring properties had been experimented upon and improved in value—by which theirs would certainly rise in value also. Hence the division would not answer the purpose of development, and the whole patrimony of waste land had better be kept under one management; and the best of all managers obtainable in a colony, for lands, railways, and all large public properties, is the government: this more particularly, as the only means of raising the value of the waste land is by encouraging immigration. The best customer, directly as a buyer, and indirectly as producer, is the immigrant, and for his inducement most land legislation is contrived.

This immigrant has been so much talked of, however, and so long looked for, that he has acquired undue importance in land laws, and been considered a much better buyer than he really is. He is the most desirable acquisition, beyond all doubt, to a new country, and for the cultivation of the soil as for other purposes; but, as a fact, he does not come for the sake of the land generally. The price of land in one country or another does not interest ninety-nine per cent of emigrants so much as the rate of wages; kindred, climate, and wages are the leading questions. For many never intend to buy land, as most mechanics and artisans; many almost despise the soil, as miners; a very few arrive with the intention of becoming agricultural settlers at all: and these have caused more trouble than they were worth in the opinion of many. For if all industries were equally fostered, and each had received as much legislative care as agriculture, the result would have been greater to the community, in increased

production and accumulation, in higher wages, and then in more immigration.

It is to be borne in mind that all was for the one use of land, for agriculture. The grazing interest was always left to capitalists, and agriculture supposed to be the only means of settling any other class upon land. So when population which came for gold, having exhausted many mines, required settlement, and whenever the occupation of land was pushed by government, more particularly by the sale of land, it was for agriculture. The squatting party having been defeated, politically, by the large bodies of electors which low franchises raised out of new arrivals by the gold discoveries, their repulse was followed by a dislike of them, their ideas and their pursuit. This class feeling was fostered by political leaders, and the elector was taught that the squatter was an aristocratic tyrant and most unjust lawmaker, whose only aim was to rob the poor. The popular estimate of the squatter was made in great ignorance of him personally, in envy of his success as a settler, and in dislike to him as a man better educated, and more fit to govern, than the average elector. That tide of popular feeling which is called democratic, but signifying the wish to rule by the power of the lowest class, set in against him, and then became united with a feeling of hostility to capital as a natural enemy of labour, which of late is becoming so general at home. The elector was taught also, by some of his representatives, in legislation and in the press, that the waste lands rented to the squatter were rich and valuable acquisitions for the arable farmer, and should not be devoted to the encouragement of an aristocratic pursuit, fit only for capitalists.

To this was added the comfortable lesson that he, the average uneducated elector, would make a much more intelligent and useful settler, as a small farmer, than any squatter. And by the strength of popular feeling, more than by any exercise of reason, without any inquiry as to the natural capabilities of the country, without any thought of settling a population by grazing or otherwise, the whole waste lands, already leased for grazing, were legislated for as suitable to agriculture, and the law of free selection came into general acceptance.

Formerly land could only be obtained after it was examined, declared to be productive enough, and within access suitable for agriculture, surveyed, and opened for sale. Then any one could select his own portion at a fixed price for all, or, in the case of many applicants for the same portion, the highest bidder got it. This is 'selection after survey,' and is still the law of the colony of South Australia. In Victoria and New South Wales the later law of 'free selection before survey' is accepted, with a few modifications in each colony. Such a law encourages settlement, by giving every man the most complete freedom of choice within the limits of the colony, but only in the first instance; for it soon defeats its own ends by the many failures, and illustrates the mistake of freedom without control.

This law is made by a class for themselves, and does not encourage capital so much as labour. For although capital might find an investment in a small piece of land, it is well known to be much less attractive than other fields, unless great room is allowed, in order that many forms of production may be tried. The object of the law is

to settle labour only; therefore a small portion of land only can be obtained by one man. He is bound to improve and occupy it for some time before he can obtain his title, and he is allowed years to pay up the price. The limit is as to the class, not as to the power of this class. The selector can go to any part of the colony—to any climate, soil, or distance from his fellow men—and there make a selection of land, and obtain it. All lands leased are at his disposal; all squatters' runs, or grazing rights granted to former selectors, are subject to be selected from at any day in any place. Only lands alienated, and quite beyond the disposal of government, and certain unavoidable reserves as roads, are exempted. He may choose a few acres at the spot where the cattle camp, or where the shepherd's hut is built; at the lagoon far back in the plains, or on the river frontage; and in Victoria he may select upon the dam which the squatter built. In neither case is there appeal or compensation granted. But that is not the greatest evil. Every one in the community but the class which make the law sees the disastrous results of this uncontrolled liberty in settlement; and even they are not contented with their own work. But every other class are opposed to it as bad policy, and as in every way against their interests. The landowner, the squatter, and the mercantile class are generally against the custom; notoriously the two former, and always the last when free of political influence and interested in the question.

The landowner's position is that of a capitalist wanting labour, or an investor seeking sale for his property, who finds himself outbid by the State of which he is a

member; and he declares that the State does not deal honestly, but in truth obtains immigrants and buyers by false pretences. This gentleman probably received a large grant of land, far from the settlements, half a century ago, to induce him to settle in the country, develop its resources by his skill and capital, and to employ as many troublesome convicts as possible. He received a tract of good and bad soil, having only natural boundaries, in thousands of acres; the limits of the estate tolerably well known at the time, but the nature of the soil and climate utterly unknown. And he and his family have worked here ever since. He cleared and fenced, reaped and sowed, made roads and bridges, farms, villages, and formed the nucleus of a town. He has imported animals and plants at great expense, acclimatised many foreign products; possibly he has spent years and a fortune in introducing some great staple, and learnt by years of special residence in a foreign land the cultivation or production of his crop. For by such men, and through such difficulties, have wool and wine growing, and most of the staples of the country, been introduced. He has done far more than prove some successes, he has tested and shown much that will fail; by the life's experience of an energetic educated man, he has generally succeeded in finding what his district can produce; in what circumstances certain crops will pay, and what to avoid. Having found the right crops or industries, his own hands are full, but his lands not occupied.

'Now,' he says, 'I have shown the way. I want others to follow, and I will let my uncultivated land at merely nominal rents to any who will follow me.' But it is impos-

sible to get tenants having knowledge or capital; such men do not come out as a rule, and all immigrants despise leaseholds. Some might be got without capital were it not for free selection, but these are all at present scattered over the width of the colony. No more capital is required by freeholder than by tenant, and the agricultural immigrant is told that all the country is good for his settlement, and is sold to him as such. So the landowner can only get odd men for tenants, who come without capital, sometimes without the necessary means to put in one crop, and often without any skill. This tenant comes with his family and his team of bullocks; he takes a lease of a small piece of ground for ninety-nine years, at a shilling per acre, as he has to clear the timber, and begin at the beginning altogether; and he manages to put in a small crop. If it turns out well, he pays the rent; if not, he gets into debt; and if the next crop again fails, he yokes his team, puts his family into the dray, and goes off to try something else. Hardly any of the large landed estates are good properties, or anything but bad investments, except they are supported by the demands of a city in their immediate neighbourhoods, or by some other centre of population; and no landed aristocrary, pure and simple, has arisen in the country. The best and most flourishing freehold estates are generally the properties, often the hobbies, of wealthy merchants or squatters, who are quite independent of their returns. Land is, under present circumstances, becoming a luxury. The best that most proprietors can do with it is to graze it; sheep are the only tenants whose crops do not fail.

The reason of all this, the landowner declares, is that

the land system, as established by law, is bad. He says that immigrants and others are induced to go out into a wilderness, of which no one can tell the use beyond the producing of a little wool and meat; they are induced to spend their labour and capital in ignorant experiments, while a certain return awaits both if they would work the land, and grow the crops which have been tested and found profitable; if they would cover the old settlements with population and agriculture before going farther. He does not desire to stop the sale of land, but to regulate it. He would propose to sell land after survey, in the more settled districts which are accessible, and of which the soils and climates are tolerably known, only in quantities to meet a legitimate demand, for bonâ-fide occupation and improvement. Let the country have its population less scattered, and it will be more easily governed; let the talent and capital be employed in more safe industry, and it will be more productive; but scatter the people by free selection before survey, and you have an immense commercial loss, deserted farms, floating population, gross ignorance, and bushranging.

The squatter comes to the same conclusion by a different course of reasoning. But there are two kinds of squatters, or were; the settler in the old districts who cultivates as well as grazes, and the grazier of the interior pure and simple. The former looks as a landed proprietor upon the question, for his leased land may or may not be made more productive; this is to be found. The squatter of the interior has very clear views. He says, 'No man can cultivate this soil, so why let a selector interfere with me?' He went out beyond all civilisation, beyond protec-

tion to life and property; he opened up hundreds of miles of country by discovering roads and routes; he risked his life and large capital in forming his station; he went through the greatest hardships and difficulties. Perhaps he abandoned one station in a flood, and another in a drought. But he has found the capabilities of the country for grazing. He obtained a lease of a large area; consequently he invested more to improve it—he made dams and wells, fences and buildings; and from being a wilderness, not capable of permanently supporting half a dozen savages, it now, through him, feeds and clothes hundreds of civilised men. There are hundreds of squatters in this position. Now there comes a free selector, and says he wants a particular spot in the midst of these improvements; and he gets it. Nothing appears to the squatter more unreasonable. He has a lease of that spot not yet run out, and he has fulfilled his terms of the bargain; nay, more, he considers he has a moral right to that ground beyond all leases. He says, 'I made this country what it is; governments did nothing for me; and now, when it is productive, they wish to take it from me, not to be more remunerative or useful, but to let an ignorant man waste his time and money. He can do nothing with it, for he does not know the climate.' The squatter has seen more than twelve months pass without a shower of rain, and has in another season seen the very spot selected under three feet of water. He cannot keep a garden except as an expensive luxury, and believes the selector will not grow as much wheat as he will eat. 'In fine,' he concludes, 'this selector does not come here to do anything with the land; he means to live on it until I buy him off at his own price;

for if he remains I expect he will steal my cattle, and annoy me and my stock in every way he can.'

The mercantile classes do not take much interest in the land question, but they are generally dissatisfied with the results of land legislation. They ask, not unnaturally, 'What is done with all this land selected? We do not find the produce come to market; and we believe, by alienating it in that reckless manner, that our principal source of public revenue, the land sales, will soon be cut off. There is no return got from the great bulk of the land sold.' The crops give low averages even upon the acres sown, but no proportion is sown of the land which has been cleared and fenced at immense cost. A selector is bound to fence in and improve his holding before he obtains a title to it, and he generally manages to get this document in order to complete a transfer to mortgagee or buyer. The quantity of land sold in New South Wales is enormous, and out of all proportion to the produce. Besides the grants and sales of old, amounting to nearly 3,000,000 acres, there have been alienated during the last twenty years about 5,000,000 acres of land; of all which not much more than one-half is in cultivation, including sown grasses and food for cattle. Of that total, only 147,000 acres were sown with wheat in 1871; and the large crop of maize could hardly have more than supported the working cattle employed by agriculture and commerce, by farmers, carriers, and draymen; for maize is not used as a breadstuff but as food for cattle. So that these 8,000,000 acres of land did not supply breadstuffs for a population of 500,000, in a country which has a great deal of soil and climate suitable for wheat, solely from misdirection of its

labour and capital. For although some of these freeholds are grazed, more are quite unproductive, and all from their unfortunate selection.

The objection on account of the revenue is not so tenable, but underlies a great many opinions upon the land question. It is seldom doubted that the land actually of itself does and should pay taxation. This is erroneous as a fact, and if applied will lead to unjust incidence of taxes. For the land—waste undeveloped land in a wilderness—is absolutely worthless as a commodity without labour; and the rent or use of land, under unrestricted importation, does not enter into the price of any produce. The soil has no value until it has capital and labour both applied to it, and to tax land in a wilderness is to tax labour. It is not as in a civilised rich State, where land represents capital and luxury. So that to buy land is for the immigrant to be unduly weighted. He comes to improve the wilderness, to make his food at least, not to depend upon the State, but to increase the general fund of the community; so he should not be burdened with a tax the moment he puts his plough to the barren soil. He deserves the land in itself for nothing. That he should pay a proportion of the expense of governing the community, and the cost of settling himself, is just; but the land should be given to whosoever will improve it as directly and simply as possible. If the settlers thrive, they will pay taxes; but if they do not succeed, neither they nor their land will do anything for the revenue. If they succeed, more population will come, production and wealth will increase, and no difficulty will be found in raising a revenue. It is population, and not land, which pays the land revenue.

Another evil of this law has been to set class against class in more marked and determined attitudes than they were formerly, and to lead the squatters to resort to any legal measures to overcome what they considered unjust legislation. They have succeeded in evading all acts of free selection in each colony, if not against the letter, certainly quite contrary to the spirit of these laws. This is by the system known as 'dummyism.' The test of occupation, as against mere investment for a speculative rise in land, is the base of all these acts. The land was destined only for the bonâ-fide settler; hence the free selector was bound to reside upon his land for some years, and to improve it before he got a title. But sometimes a proxy was allowed to reside upon it; and whether or no, immense tracts were secured by capitalists, generally for grazing and to save the ruin of a large squatting establishment, by what are called 'dummies.' Where any danger of free selection cutting up a run seemed imminent, beyond one or two vagrants who might be bought out, it was common to have applications made for selections in all the most eligible spots, by friends, relatives, servants, anybody, and sometimes by imaginary persons or 'dummies.' These applications could not be refused. The selections were surveyed, fenced, and in due time declarations came in that they had been occupied and improved according to the act, and the titles were given. Large areas were thus secured, solely for grazing purposes, and at a heavy cost; but they were necessary to save the ruin of stations sometimes, for certain spots may command a larger area, and preclude farther selection; while many speculators availed themselves of these means to secure valuable

and compact freehold estates in the best localities and soils.

This state of affairs shows the mistake in the system. We find land offered to agriculture going persistently to grazing purposes, and instead of settling wheat-growers, fixing wool-growers in many different ways. By labour and population being so much scattered, there is greater difficulty in producing wheat profitably; by the failure of law, squatters acquire large freehold estates; and the natural industry of the greater portion of the land has to struggle against legislation. There is no need of this antagonism, nor for squatting to suffer by the inducement to grow wheat, nor labour to quarrel with capital; there is room and to spare for both, and interests are not conflicting absolutely. But there is in the mind of many, beyond class feelings and instincts, an idea that the agricultural labourer is a particularly desirable settler, and a special man to be protected and encouraged. Such people think that a State ought at any cost to produce its own bread, and that the merit of producing wool or gold is as nothing to that of cultivating the soil; and in new countries it is sometimes fondly supposed that he is a more permanent and steady settler; hence an eager desire to acquire him, and in the haste such laws as free selection are passed.

The immigrant who grows wheat simply wants to make money. He may sometimes settle permanently like graziers or others, but the occupation of tilling the soil does not give a man more interest in his acres than grazing; and when he has plenty of more ground to make further selections in, he does not hesitate to abandon his

farm when he has worked it out by crop after crop. It is not to be supposed that a farm in a new country is like a farm in England—a home of comfort and abundance. On the contrary, the farm in a new settlement is a miserable, comfortless spot; without a more attractive appearance than the smallest station for grazing. The wheat-grower is bound to fence his land in Australia, on account of the numbers of animals grazing everywhere, and as he is compelled to improve his holding; so he has fences. But beyond that and a wretched hut to live in, he has nothing but the bare fields; no garden nor embellishment of any kind, no vegetables beyond his pumpkins among the corn, and frequently no milk. He wants wheat, that is money, and scorns comfort or ease. Even a comparatively thriving farmer in the plains of South Australia lives in a bare bleak hut in the wide plain; he has neither shelter from cold or hot wind, garden, nor comfort of any sort, hardly proper food. He sows and reaps, sows and reaps, until his average crop is reduced from forty to six or eight bushels per acre; then he goes out north and takes up more land. He leaves his 'home made in the wilderness' without hesitation or regret.

It is the same in America. A rich farm in the Mississippi states has neither fence nor tree nor garden, perhaps a thin belt of poplars carefully cultivated for their timber, but not the slightest effort to adorn the homestead; a house, a cart-shed, and a wood heap, nothing more, but the wide endless plain covered with corn. Everything signifies dollars—dollars and dimes. He may go to California and select in the Sacramento Valley. Surely a man will be contented there; he has the finest climate,

the richest land, and in a flourishing State; he reaps 60 or 80 bushels per acre, and can grow endless varieties of fruits without trouble. But he does not often settle, and never thinks of anything but making all he can out of the land, and at once. That valley used to yield from 60 to 100 bushels, now the average is about 20. At the present moment, the wheat-growers of that and other older settlements are rushing up the San Joachim Valley; there they live as comfortless as possible, reap their 80 bushels per acre, and are working out the land as quickly as they can. On the San Joachim or the Macquarie it is the same thing: the wheat-grower wants to make money, and is no more a permanent settler than any other class.

But by all means let him make money—only not by hindering wool-growers and other people. There is plenty of land yet for all in Australia, and no necessity to lay all the country open to selection. The liberty of choice need not extend over all the country, and its doing so has lost the country millions sterling, entailing the raising of a scattered, therefore ill-governed and uneducated, population. There would be ample room for all agricultural settlement under any tolerable system of free selection *after survey*. This would confine the risk of labour and capital to tracts of land known by previous occupation, where the climate was capable of growing wheat or sugar, or whatever it may be. These tracts would be within reasonable distance of markets and of intelligence; they would be more thoroughly occupied and developed when opened; and the people kept within the pale of civilisation. But being allowed to free select before survey, they scatter all over the colony; they go to the most secluded

spots, to the most arid and impracticable climates, to all or any portion of the whole territory, and being as a class ignorant labourers, they merely make profitless experiments in an immense number of cases, and do considerable harm to squatting.

It has been said that there can be no harm in free selection, for if the land will not grow wheat, or if the selectors cannot make it pay, they will not go. But this is giving the class who select credit for more intelligence than they possess, as they do not, nor indeed can they possibly, know what the land will do before they experiment for themselves, or take the advice of better-informed people. They have done the first, they have experimented for themselves for some years now, and the result cannot be called satisfactory; is the other plan, of taking the experience and information of others, the plan of selection after survey, not worth another trial? The most successful of all the colonies in the matter of agriculture, South Australia, has never departed from this system.

But if agriculture is misdirected through an unrestricted liberty, squatting is also hampered to a great extent. This has been considered as the industry for capital, and none but capitalists can undertake it unless in Queensland. The reasons of this are, that the carrying capacity, or endurance of pasture, of the country is so small that great extents of pasture are required; that the expense of maintaining a large establishment is unavoidable where stations are far apart, and that only large numbers of stock can make such establishments profitable. Hence large capital and immense farms. When land which has been purchased or granted for agriculture reverts to graz-

ing, as a great deal of it has in all the colonies, the carrying capacity of the land is much increased by the improvements made, as by dams, fences, and often by grasses sown with or without ploughing. These improvements are not safe upon leased land, as the expense is great; and although squatters do make dams and fences, they cannot go so far, nor would any one, upon leased land as upon a freehold estate. But having improved it, the land can grow much more wool, and if the situation of the property is not remote, but in or near the settled districts, the expense of these improvements, of working the place, and of all items of management, would be very low. To make the speculation possible, however, cheap land is necessary; while cheap land under these circumstances would meet the case of a very large class, who have not sufficient capital for squatting or for sugar, and do not see how to grow wheat profitably. This middle class has no room in the country. They very frequently embark in squatting, but seldom with success; for they have to borrow largely, and squatting is not safe or profitable upon a large borrowed capital. Such men are generally years managing stations, their money idle; or if they rush into any field, they will find large capital necessary. Indeed, between the capitalist and the manual labourer there is no place in the country. But a system of cheap land, in tracts unsuitable to agriculture, would enable this class to become sheep-farmers—as at home, not squatters—and they would be a most productive and valuable acquisition to any colony.

Except in Queensland there is no idea of lowering the price of land. One price of about 20*s.* per acre has been

fixed, and the idea is to hold the land until some unfortunate free selector will pay that for it. If he loses, that is his business; as if the selector were not one of the community, and his losses their loss. But there are large tracts, beyond the limits of any possible wheat cultivation, which might well be sold at 5*s.* or 10*s.* per acre, and if necessary, in areas limited to the maintenance of one sheep farm. There are immense blocks of mountains too stony and inaccessible for tillage within old settled districts, and again, as we descend the inland slopes, as the rainfalls become less and less, we find wide belts of country unfit for wheat, but worth 5*s.* or 10*s.* per acre for wool-growing. The great interior plains again are not worth so much, and if ever sold, must be sold in larger sections to men of larger capital. The farther inland we go, the less productive is the country, therefore a greater area at a lower price is required to support a settler; and the risks becoming greater, the capital required is greater, so again the size of allotments must be larger. The climate, and therefore the land, is less productive as we recede from the sea and moisture, and no arbitrary price will raise its value.

CHAPTER X.

Gold brings population—Mining not favoured by Government—Geological surveys—Sir R. Murchison's theories—Gold-mining in Victoria—New South Wales—Queensland—Prospects of production—The digger.

WHILE the agricultural settlement of the country has been pushed with more haste than purpose, and the great grazing capabilities of the interior left to fight their own way, until they have become the business of the capitalist only; while all legislation has been framed to introduce the agricultural labourer,—the great body of the population have come for gold. In the desire to obtain their 'yeoman,' a strong feeling against, or at least a contempt for, other settlers has arisen. It has been presumed that a man who buys land will settle there, and make it productive; that he will be a reliable intelligent citizen, more easily governed, and more conservative in fact, than any other class of settlers without considerable capital; for the possession of a few acres will give him a stake in the country, while he will be an independent citizen. So that many of the community, who do not approve of the general democratic movement, will join in favouring the agricultural immigrant; and as he is favoured, other classes are left unnoticed, most particularly the gold-miner. It was most probably considered that he

was prosperous, that he could well take care of himself; but until of late years, since scientific mining became more general than the old digging, his profits were really lower than many other manual labourers'.

No land laws nor any device of legislation can bring population so rapidly as a gold discovery. Rich land in any climate may be offered freely, passages paid, but not one emigrant will sail for that to one hundred for gold. California was notoriously a rich land and favoured climate, and invited immigration long before the discovery at Sutter's mill; the early colonists got large grants of magnificent land; but neither Spanish nor American settlers came in any number; it remained an insignificant settlement until the gold-fields. And Victoria likewise. No settlement in Australia made such favourable impressions at first; all settlers did well in it, for it is a rich tract in a very favoured Australian climate; but gold and nothing else brought the population it required. The land laws of all new states invite settlement; they may well give the land for the labour; and it is to be hoped that they will not delude that labour in the transaction; but no emigration agent is equal to a small alluvial digging. Even New Zealand, one of the most favoured of all lands and climates, well known and kept prominently before the world's notice by its early history, failed to attract any population until gold was found; then neither distance nor rumours of wars, neither its Alpine barriers of snow and ice nor its impossible iron coasts, could deter immigration. Baron Reuter will succeed in Persia if he finds payable gold-diggings.

The digger has not been overtaxed; for his license

fees to mine, or his rents for mineral lands, have never been high; but he has not, until very recently, had adequate legislation to protect his property, and regulate the transfer or titles of the claims. While a very large portion of the civil service of each colony is devoted to the management of alienated lands, to the collection of purchase fees, and supervision of the details of settlement, which is a most unproductive labour, both as to the community and as to the revenue—while this is the principal business of the largest department, the mining interest, the first or second most productive industry, and that which employs more of the people than any other, had not even a department for its business. Thus the miners suffered much by the law's delay and the routine of office. But for many years in Victoria, and at last in New South Wales, a mining department, as a lands or railway department, has been established in the machinery of government; a necessary reform. But he is still left as unguided and uncontrolled as the free selector. Like him, the digger goes anywhere and opens up his own field, which is the best and only way to discover payable gold; but it would be better if he had some hint as to where gold might be found, and still better if he had some information as to where other minerals are most likely to lie. The digger is quite ignorant of geology in most cases, and knows nothing of the formations likely to contain any valuable substance, nor does he know most metals when he finds them. Consequently, he wanders about the mountains looking for gold in many impossible places, and passes many other metals in complete ignorance of their existence. The ranges which contain gold may have rich argentiferous

veins, but very few of the most intelligent gold-diggers would know what they were, or that they had any value or use, if they met them ; and the ores of lead and tin, besides cinnabar, bismuth, and other valuable substances, have been found in various parts of the country, after they had repeatedly been passed by miners.

The want of guidance to minerals, and the want of knowledge to enable them to recognise those minerals, are the greatest hindrances to the success of miners; and both those have, to a great extent, been foreseen and remedied by the colony of Victoria. In Melbourne there is a large and rich technological museum, kept by the colony for public use, in which specimens of all ores and deposits, and formations of metals and mineral substances of any value, are to be found in endless variety, along with the models of the various implements and appliances of mining and metallurgy. It is a complete miners' museum, and the simplest school for the prospector or mining explorer. Many cannot see it, but crowds of miners do visit it, and the lessons that museum has taught may have repaid the community a thousandfold for their public spirit, and will assuredly do so again. But this colony has done much more for her diggers. She has executed careful and complete geological surveys of a large portion of her territory, elaborately mapping all the results, under the guidance of Mr. Selwyn and such geologists ; giving the world an estimate of her probable mineral resources more sound and satisfactory than can be formed of most countries. It is to be regretted that this survey has been discontinued; but such a good work, so well begun, cannot long remain incomplete in that

energetic colony. And the result will be an example to her neighbours.

Queensland has sent out some geological expeditions, and been at a little trouble, now and again, to obtain more certain knowledge of tracts of country reported auriferous; but her vast territory must necessarily remain for long comparatively unexplored by the geologist. It is only in the more settled districts that we can look for a geological survey, and it is promising that she has again in her service a skilled geologist.

South Australia has long made up her mind that she has little or no gold; for a very small portion of the silurian system is found in her territory, and although it also is meridional, there cannot, after such a length of time, be much hope of more gold-fields being found in that colony. Her explorations were not geological, but to discover more available area northward. New South Wales, however, might do much more towards the geological survey of the country. She is the eldest, the richest, and again, in mineral resources, the richest of all; but we know very little of her interior beyond topographical surveys and the general nature of her geological formations. Some portions, as her principal coal-basins, have been examined, but in the course of three generations of settlers, each richer and more hopeful than the last, much more might have been done for science, if not for themselves. She can well afford to give her miners, as her free selectors, better guidance than their own crude ideas; she could at least prevent them both from going to work where success is impossible. These museums and geological surveys teach men to know wealth in other forms than the yellow

gold; and the surveys would tell which ranges can contain gold, which tin. In the recently discovered tin-mines, a spot was found in which some diggers had previously washed and thrown aside some tons of stream tin, for the two or three ounces of gold-dust they held.

The eastern and north-eastern line of watersheds, or the edges of the great inland plain on that side, are very frequently of the old sandstone *in situ*, often interrupted by igneous rocks; and on the north they are generally of these formations. But along all the eastern coasts there have been many later upheavals of silurian rocks, on both sides of this watershed; and these, along with secondary formations in Queensland, have had frequent interruptions of granites, porphyries, and other irruptive intrusions. It is from these points of contact that gold is still traced. The leading propositions of Sir R. Murchison are still borne out by facts, that the lower silurian rocks contain the greatest quantity of gold; and when igneous rocks have penetrated secondary deposits, the latter have been rendered auriferous for a limited distance only beyond the junction of the two rocks. But it is possible that his proposition as to the igneous origin of gold may require modification; and his opinion that this process matured under atmospheric influence, and hence the nearer the surface the richer are the veinstones, is no longer tenable.

He seemed to favour a suggestion made by William Humboldt, that the atmosphere had some relation to the formation of gold; and that during volcanic irruptions, when molten granites, porphyries, and basalts were forced through silurian, carboniferous, and secondary strata, then gold was formed. He believed that this occurred at a

comparatively recent period, and that sub-aerial quartz contained most gold. Early experiences of digging, particularly in the Ural, which was most familiar to him, tended to confirm this impression; and he gave this theory as a reason for the frequent discovery of large nuggets, far larger than any masses of gold then found in quartz veins. These nuggets, he said, have been washed out, by great denudations, from the most exposed surfaces of the quartz veins, when former oceans and glacial periods crumbled the submerged mountains, and washed the gold into the valleys. The portions of these veinstones left will be found to contain less gold, and less again as we descend; until, he concluded, at a depth of 300 feet, gold will never be found profitable to mine.

But gold has been found profitable at far greater depths, and it is now denied that veinstones become poorer as they descend. Then Mr. Selwyn suggested that nuggets, or pieces of gold washed out of the veins and found in alluvial deposits, may have gradually increased in size by a segregation of smaller particles to them, through the deposition of metallic gold from magnetic influences, in a process analogous to electro-plating. The origin of the metal and the segregation of the particles are still open questions; but this, however, we do know—that the veins do not become unprofitable at 300 feet, nor do they, as a rule, decrease in richness; for gold is daily found in as large quantities and in as large pieces at great depths as at surfaces, and as large masses of ore have been found deep in quartz-reefs as ever came out of alluvial diggings.

There are quartz-reefs now wrought in Victoria at depths of 1000 feet, and paying well; there are many up-

wards of 600 feet in depth, some of which yield returns of one ounce per ton, which are highly profitable. This success is greatly owing to improved machinery and systems of mining, and of extracting the ore from the stone; still it shows that gold does not run out at great depths. There has not been found any ratio whatever for the richness of the stone, neither by depth, nor dip, nor any leading feature in payable quartz. The veins do not always run north and south, but sometimes, in Queensland, from east to west; and it is impossible to tell where most gold may be found. Large masses of gold have been found at the top of reefs, or in the soil in their immediate vicinity, and they have also been found at great depths.

There have been different eras in the history of gold-mining, and, as in wool-growing, every decline of the industry has been followed by cheaper methods of production being found, and another start being made. The first discovery was productive of the rudest and most imperfect method; the old cradle has since given place to the sluice-box; the refuse of early diggers has been washed over again profitably; then puddling and larger systems of washing soil, by means of great water pressure, came in, and immense profits are made out of ground considered worthless a few years ago. The early diggings were very profitable to a few, and blanks to the many; then as they became exhausted more care was taken, and now the yield of a field is much more equally divided among the miners upon it, for the processes are more thorough. For some years the gold raised by many gold-fields gave less than current wages to the men mining there—in other words the gold cost more than it realised. Another reason of the

industry being of late more productive is that it has become more scientific, and is backed by great capital. When first capital ventured into gold-mining it was generally unfortunate: for years it was remarked that joint-stock gold-mines, however promising, somehow never paid dividends, and they were despised; but of late they have been much more remunerative—very variable, some yielding more than 100 per cent per annum, many never paying a dividend: but on the whole they are more productive, because better understood, better managed, and have command of capital. Even if a mine does not pay a dividend, under the generally prevailing system of large joint-stock concerns, it pays labour; or if not, it is soon abandoned. Formerly most diggers wrought on as long as they could keep off starvation, in vague hopes of success; now a board of directors stops that.

Victoria is still the most productive colony of gold, and has more interest in that industry than all the others. The general formation of the country is silurian: upper silurian in the centre, having flanks of lower formation and metamorphic rocks; beyond the western flank are large fields of trap; while tertiary beds cover the valley of the Murray, with some portions of the east coast; and carboniferous rocks are found on the south coast. But the most striking feature is not the formation, but the amount of denudation which these silurian ranges have undergone; and it is to this that the rich alluvial valleys are owing. These valleys are the more interesting and valuable too as they, and not later quartz-mining, brought the population, and in fact made the colony. These great original washings of the gold into natural troughs have

occurred, it is believed, at different periods, and have been followed by many other changes of the surface. Some of the country indicates a glacial period, and some drifts have been covered with more recent volcanic rocks. It is in these deep drifts that most of the Victorian gold is still found, and it is not known that there is no room for more such being discovered. One of the greatest and richest and first of the old fields of Australian gold-digging is Bendigo, and, speaking of that field a few months ago, the *Australasian* said: 'Fresh evidences continue to present themselves of the inexhaustible character of our gold. The Bendigo gold-field was never in a healthier or sounder position than at present. One company has paid 87,500*l.* in dividends, another 153,000*l.* in twelve months.' At the same time the number of men at work in alluvial mining has greatly decreased—upwards of 50 per cent in ten years; while the number of quartz miners is about the same.

Although the numbers of men employed have decreased, they are upon an average much better paid now, as nearly all are hired to work, even if they should be shareholders, and labour is paid before capital. Their profits are increasing too; for whereas 58,000 miners produced nearly 50 tons of gold in 1871, the reduced number of 55,200 produced rather more than that in 1872. Perhaps more capital is invested in quartz than in alluvial mining, but in either case it is almost always 'mining' now, and rarely 'digging,' as in the old days. Some of the mines are undertakings of considerable engineering difficulties, involving shafts, and tunnels, and shafts again extending thousands of feet, and employing a large capital. Some claims have spent 30,000*l.* or 40,000*l.* sterling before they

raised any stone, merely in opening up the mine; for the water alone in some districts, as Gipp's Land, is a formidable enemy, and gathers into tolerable streams in some mines, requiring powerful pumping machinery to keep it down. It is every year becoming more scientific and more safe, and attracting larger capital for investment. Quartz-reefs did not pay a few years ago which contained less than half an ounce to the ton; now five pennyweights will pay, and some mines raise stone 600 feet for half an ounce per ton at great profit. The average yield of quartz raised in the colony of Victoria in 1871 was ten and a half pennyweights per ton. The income of the colony from this gold, in dividends, &c., net profits after paying all labour, is upwards of 1,000,000*l.* sterling per annum.

The auriferous areas in New South Wales are larger, and there is no reason to suppose less rich, than those of Victoria; on the contrary, there have recently been obtained larger returns from some veinstones here than from any known in Australia. And when it is remembered that 3000 of these quartz-reefs are now being wrought in Victoria, and that Mr. Selwyn declared he did not believe one per cent of the reefs in that colony which would probably contain gold had yet been found, we find a prospect before us of an amount of gold coming into Europe, in steady streams of unfailing strength, which must affect commerce and finance to an alarming degree. The cost of production will steadily decrease, and as quartz containing five or six pennyweights of gold per ton will now pay in some parts of Victoria—while more is required as the distance from labour and markets increases, until one

ounce per ton will not pay in some parts of the tropical north—this small proportion will still be reduced, and all districts require less rich stone in future to yield the same profits as they obtain now. That there is great room for reducing the cost of raising gold, both in quartz and alluvial mining, can be seen by a glance at any gold-field. The want is combination. At first particularly, and for long after the field is opened, miners work in small parties, upon small claims, each quite independent of another, having the whole work to do for each claim. They may have their stone crushed or their drift puddled by another party, having such work for their specialties; but all the raising is done in each claim by systems complete and independent. The claims may be only a few feet, but a shaft must be sunk upon each, drives cut for each, and pumps erected upon each, at a great deal more labour and cost than is necessary to raise any quantity of gold. Much of this might be saved by combination and by a little engineering skill. There are certainly immense mines planned by thorough engineers, and such are becoming the favourite investment for mining capital; but upon new ground, and with the bulk of miners everywhere, there is still a great deal of the old happy-go-lucky system. Not one half of the shafts sunk are at all necessary, and much of the underground work is done in profound secrecy between adjoining claims, causing immense unnecessary toil, all which might be avoided by greater combination. Combination will cheapen production, and that again increase the industry and the total yield.

In Queensland there is endless wealth in most minerals of commercial use, and particularly in gold; but all is much

less easily obtained the farther we go north, and especially gold, than in the older settlements. This is not by reason of scarcity of labour, distances, and difficulties of communication, and such objections to new fields: these are questions of time, and are daily being met; but Queensland has natural drawbacks in the way of mining. The climate requires all labour which is from a European or any cold climate to be more remunerative; the heat too, coupled with the natural aridity of all the country, makes water generally scarce for mining purposes, except in the wet season, when it stops all work; and more than all, the formation of the surface of the country precludes much alluvial mining, and has left the gold still hidden in its matrix. The silurian, carboniferous, and mesozoic systems abound, particularly in north-eastern Queensland, and are all more or less interrupted by granitic, trappean, and many volcanic irruptions; but there do not appear to have been any such denudations, at any period since these irruptions as have swept over Victoria. Mr. Daintree says, 'Had the ordinary denudation, which took place in Victoria during the tertiary period, been repeated here, we should probably have equalled that splendid colony in alluvial diggings.'

But although not washed out for the surface-digger into valleys and drifts, the gold is there, if we can trust geology. It is from the innumerable quartz veins which net these ranges, and have been found at so many points already in exceeding richness, that Queensland gold will principally come This form of mining is not so attractive to population, nor so easy to inexperienced labour, as simple alluvial digging; but it is more profitable upon

the whole, for it employs more intelligence and capital, which will find out much sooner if an undertaking is remunerative. All the alluvial diggings of Northern Australia have as yet been small and 'patchy,' and northern gold, either in drift or in stone, has generally been found at interruptions of secondary or carboniferous formations, frequently at mere dykes. In the Gilbert and Cape fields particularly, where small but exceedingly rich discoveries have been made, the ore has always resulted from the intrusion of an 'elvan' dyke, which indicates more minerals than gold in most cases. These auriferous ranges extend up north to the 14th parallel; there is one of the richest, if not the richest of all, quartz fields, now being worked in the 16th parallel on the west; gold has been washed out of the gravel of the Endeavour river on the east; but north of these limits there is little possibility of gold in Australia. The rest of York Peninsula is low country, in which the older formations have probably not been upheaved, but fields of granite have formed most of the soils, with occasional sandstone; and silurian rocks do not appear again until we cross Torres Straits, where they are said to form the interior of the immense island of New Guinea.

Along the northern coast westward there are many points showing silurian formations, and giving other indications of gold. On the watershed of the head of the Gulf of Carpentaria, where the waters divide to run due north to the gulf, and due south to Central Australia, silurian fossils are said to have been found. In Arnheim's Land, no sooner did the South Australian government form a settlement at the telegraph cable station than

gold was discovered. The silurian formations have not been reported upon favourably in Western Australia; Mr. Gregory does not mention any, and accounts for their non-appearance by the Darling Range being a descent of the inland tableland, and not an upheaval. And in South Australia there is little possibility now of anything more than the sterile sandstone being found upon the Great Bight of the coast, while the colony of South Australia has examined her small strips of silurian ranges too well to leave much room for hope.

There is, however, an extent of gold country in East Australia which contains that metal in quantities beyond any computation. The alluvial fields alone cannot be nearly exhausted; for it is more than probable that many more early drifts, or deep sinkings, in a surface of the country which has long been altered and covered by subsequent fluvial and volcanic action, may yet be discovered; besides the more thorough development of recent auriferous alluvials. But the great mass of the gold is yet where all these drifts came from, in the quartz veins in the ranges; and if not one per cent of the probably auriferous veins in Victoria have been opened, not one in a thousand have been seen in the other colonies. Northern Queensland alone must contain immense treasure. So that there is no apparent limit to the yield of gold; on the contrary, it is most likely that this metal will be sent home in greater and in increasing quantities.

The field may differ, but the digger is the same. He may be on the bleak plains of the Snowy Range, within the snow-line, and have to abandon everything beneath the great mantle of winter's snow for some months annually,

as at Kiandru; or he may struggle against the torrents and floods of a land of mountains and lakes, like Gipp's Land; he may starve and struggle beyond northern settlements far in the tropics, packing the wash-dirt on his horse many miles to have it washed, or blowing off the soil to get the gold cleaned; or camp on the edge of a wet season's floods, in alligator swamps, till he is permitted to resume his engrossing game; but he is the same man. He is an enthusiast; he believes very much in luck, and is confident that every man will have his chance. The misfortune is that he is never content with his chance when it comes; the more gold he gets, the quicker he spends it, and a rich gold-miner is very rarely met. Fortunes are often made, but then they are as often spent in the fruitless search of more; and smaller gains are spent from hand to mouth. The digger, more than most men, is often one who has spent his life in the vain search of gold; the longer he is a digger, the longer he will be one. He knows no risk or hardship or privation too great. He is always ready at a moment's notice for a new rush, and it does not matter whether 'alluvial' or 'reefing,' nor what climate, nor what means are necessary; he will go if a man can get there. Alluvial fields tempt crowds who are not diggers, but quartz is as great a lure to the old skilled digger.

One peculiarity of the Australian may be noticed—he is not a gambler. His life is a continual game of chance, played with skill; but his amusement or idleness does not include gaming of the ordinary kind. The American games, requiring a minimum of calculation as far as the cards go, are familiar to the working class of the country;

euchre is played under nearly every dray in Australia; but nowhere does the gambling go beyond tobacco, except with the Chinese diggers, a class *per se*. They play mostly among themselves, and will play for anything in their power, to the last penny, and then stake their labour for months to come, which, if lost, they pay like slaves as the winner may exact. But the white digger does not play more than any other man in the country, and with all the suddenly acquired wealth frequently held by labourers, none play beyond mere amusement. It is singular how a digger stops gambling with his day's work, for that is only a game of chance; but it does stop there, unlike the American miner. Both American and Australian miners have much the same origin; they have the same tongue, religions, traditions, education, and habits, to start with; but the American miner becomes an inveterate gambler, and spends a large portion of his time at gaming. Perhaps he learnt it from the Mexicans and Californians, for all the Spanish races are inclined to it; but he has certainly acquired the habit.

CHAPTER XI.

Tin-mining—An alluvial rush—Its history—Speculation—Copper—Coal-fields in New South Wales—Queensland—Hunter coal-trade—Iron manufacture.

MINING of all kinds took a great start during the past year, particularly in New South Wales, and hundreds of mining companies were formed to work gold, copper, and other mines—among those, tin. This was discovered in the beginning of 1872 by some labourers in New England, and caused first a rush, next a great deal of speculating in the form of joint-stock companies, and lastly a collapse. The history of this tin-fever is like the history of many gold-fields: for working the two ores is much the same, to labour and to capital.

The ore was found in the form of 'stream tin,' that is, particles of tin more or less pure, but sometimes containing 70 per cent of the metal; it was found in the streams and valleys of the country, mixed with gravel and sand; and it was raised and washed altogether like gold in similar alluvial fields. This occurred in the New England district, a tract of high lands having an elevation of about 3000 feet within 100 miles of the sea, where the rainfall is great in a temperate climate, with more regular seasons; the district has well earned its name, except that its climate is much more agreeable than that of the old

country. No country could be more favourable to a new industry. Here was the finest climate, abundant water supplies, and a settled country. For New England has been a favourite district for thirty years; the land is in places very rich, and always productive; the crops of wheat have for long been more than the district could consume, and in the absence of easy communication, flour is frequently much cheaper here than upon the coast. The country is covered with the comfortable homesteads of settlers who may be called farming squatters, for agriculture and grazing are carried on conjointly; these homesteads are more substantial, more embellished and enriched by orchards and gardens, and they are more numerous than in surrounding districts. All food is cheap, the country settled, the climate remarkably fine, and there is much more water than in most parts of the country.

Tin was found here in a tract of granite country, where innumerable small lodes seem to have been reduced and washed down the streams. The valleys sometimes contain wide meadows or swamps, the beds of which are gravel containing this ore; or the tin may be found in pockets along the rocky channels, or in angles of the streams. It is obtained by raising this gravel and washing it, precisely like gold, and the history of this is as that of a 'gold rush.' No sooner was the value of this black dust ascertained, as 'stream tin,' than population flowed in on all sides, and a great excitement spread over the colonies. The streams had frequently been prospected by gold-diggers, with little or no success; they washed the gravel, sometimes got a little gold, but always threw aside the black dust as valueless, like any other gravel; and not till some

Cornishmen found and recognised it as 'stream tin,' was it known to be tin. Then the rush set in. The land was secured under regulations for 'minerals other than gold,' by which larger areas were obtained, and generally purchased at 20*s.* per acre. First one and then the next section was taken, down and up the watercourse; then the next creek was prospected, found to have stream tin, and it was taken up, as party after party arrived; and so on.

The first stream tin was found to contain as much as 70 per cent of pure metal, so it was hoped that all was as rich; the first sections opened had many feet of 'wash-dirt,' the other valleys seemed similar, and they were secured; the ore was readily sold before being smelted, and was sent home in this form, so that it was considered a field requiring little or no capital, for any man could dig and wash the gravel; no skill or combination seemed necessary. Diggers and labourers of all kinds flocked in, from all parts of Queensland and New South Wales, and even from Victoria, until many mining districts felt the want of labour. These men washed the gravel in sluice-boxes, obtained ready returns, and claimed all the attention of the country. In a few months as many as 15,000 people were settled in these mountains; they built a town of 10,000 inhabitants, with all the bars, theatres, and 'institutions' of a gold-field. Merchants and speculators bought claims, and took up land in hundreds of acres. The government of Queensland raised the price of mineral lands, but within ten months of the discovery as much as 5000 acres had been sold; frontages to streams, blocks at the back of these, and again sections behind these, up the

slopes of the ranges: the buyer of land buys all under it. So that far and wide over that district of granite, on the borders of New South Wales and Queensland, all the valleys and ravines had been opened as tin-mines. This was the first stage.

The 'stream tin' went home as it was washed, without being smelted, and at first brought good returns; the merchants bought it like gold-dust, on the spot, and pushed the mines; but they first found their mistake—some shipments were found not to contain ten per cent of the metal, and realised heavy losses. Then it was found that enormous water supplies were required to wash, for tin was wanted by the ton, not by the ounce, like gold; that large works only were payable, and combination became necessary; that streams had to be dammed to have a large supply of water at any season; that water had to be diverted to wash the channels cheaply and thoroughly; that in short it was necessary to get capital to assist labour, for time was required. Then came the second, or 'joint-stock' stage.

Companies were formed daily and hourly to work large and small claims; the capital proposed by their prospectuses amounted to millions in all; shares were bought and sold in claims which had a name, but no local habitation; rises and falls occurred in the most unaccountable manner, and the people of Brisbane and Sydney became all speculators more or less. These companies were to hire more labour to develop mines, to buy machinery to pump larger quantities of water and to wash the gravel, to make dams and channels, and nothing could be more certain than their success. One or two claims paid enor-

mous dividends at the very first washing. To combine works, small claims became amalgamated; others were bought by speculators, who formed a company, sold the mine at a profit, and speculated in the shares. Engineers could not make half the machinery required, nor was half the ground tested; but the mania, once set in, must run its course. The shares kept high, the projectors made money, and the public hoped. At the same time, however, not so much capital really was sunk; for seldom more than 10 or 20 per cent of the capital was called up at first, and as many shares were actually given away to 'good names' and to promoters, the public had actually paid only perhaps 5000*l.* into a mine, which was debited with shares to the amount of 10,000*l.* or more, and dividends had to be paid upon the latter sum.

Then came a collapse. It was found that there was much rainy weather in that country, men must live in all weathers, and so labour had to be paid for both idle and for working days. Miners got 40*s.* or 50*s.* per week, and perhaps could not work more than every second day upon an average; so labour was dear. Next, floods always interrupted the work, for everything was in or upon water-courses; and it became very expensive to open a large field of wash-dirt, or to dam a stream, or cut a run for water. Then machinery took long to arrive, long to erect, and was frequently damaged or interrupted also by floods. Instead of dividends came 'calls' for more capital, reports of disasters, and requests for time. Some smaller claims were abandoned, all were examined; and it became known that the greater portion of the country would not pay to work at all, while all must be wrought upon the cheapest

systems. Indeed, it was found that a great deal of land had been bought for tin which did not contain a trace of it; it had been secured because it adjoined rich claims.

Having passed through these stages, the industry will gradually settle into a steadily productive occupation, but only upon a limited scale. The ore has not been found in veins nearly rich enough to work, nor indeed in any quantity proportionate to the amount of alluvial stream tin. The cost of labour will always limit its production more than anything else: a miner is worth at least 40*s.* per week in Australia, whilst he only gets 6*d.* per day at the Banca tin-mines. Again, tin could not be produced, unless found in unprecedented quantities, in almost any part of the country, from want of water. For New England is particularly fortunate in this respect, and to wash tin even there, dams are required to store water. Some granite districts occur about the Snowy Mountains, which have water, and may have tin ore; but few other districts are at all likely to have both in suitable quantities; and beyond New England there is no present prospect of other tin land being opened. Here it will be raised profitably by large combination of labour and capital, by skill and experience, which may have to be imported, and by the reduction of carriage which may be looked for when the railways are opened. Two lines, one from Brisbane and another from the Hunter valley, are both being carried on towards the district.

Tin-mining was, perhaps, more fortunate for a start than most new industries, and than most new gold-fields. The first discoveries published were undoubtedly rich, but so are most new mines. But tin was brought before

the public when a great deal of money, beyond any expectation, was remitted to the country after a rise in wool, when this capital was lying idle and seeking investment, and when gold and copper had simultaneously attracted attention by one or two remarkably rich yields. All these causes brought about a mining mania, which somehow was thought to find a safer vent in tin than in the other metals. For although this ore was found like gold and raised like it, subject to capricious richness or poverty in the deposits, and liable to floods and all the disasters of an alluvial gold-field; yet, by being a less rich and attractive ore, it possibly was thought to be less liable to exaggerated hopes. Tin was spoken of as safer than other mining, but without reason; and it did not receive nearly as much capital for investment as one small gold-mining district, where one extremely rich quartz reef had yielded fortunes; nor was copper neglected.

This ore is found in various forms, carbonates and oxides, in many parts of the country. It frequently is at volcanic interruptions of old strata, and is in most irregular quantities. Sometimes wedge-like, the head uppermost; sometimes in thin veins; again in large masses of ore in walls, and even in mountains of copper. The celebrated mines of South Australia are not yet exhausted; but New South Wales and Queensland are producing large quantities, and contain many wide tracts of country rich in copper not yet developed. This form of mining requires large capital, and involves great risk; for no one can tell where a lode will run out. It has not only to be raised by skilled miners, but then smelted at great cost; after which the price of carriage alone determines if it is

profitable. Copper ores contain from twenty to five per cent or less metal, and are rarely wrought if below these yields.

The fuel used is always timber; which is a costly item after a mine has been established some years, for the furnaces consume forests. The labour need not be skilled, except underground; but there it is almost entirely done by Cornishmen, frequently imported under agreements for years; they raise the ore by contract, made in open competition by auction. But copper mines are very speculative, and require more management than is generally bestowed upon them. They require to be complete and independent at first, to do everything for themselves; they must not only sink their own shafts and raise the ore; they must smelt it, build their own furnaces for smelting, make their own bricks for these furnaces, import their own men from great distances; and then they have to contend against all the cost, delay, and difficulty of getting their copper sent by rough bush roads, and shipped to market. All this requires a great deal of organisation, large capital, and long time. Many mines are delayed months before they can get good fire-bricks, for instance; by an irreparable accident to some piece of machinery, by bad labour, bad roads, and all the difficulties of a new country.

Many other mines than those of gold, tin, and copper are now wrought. There are silver and lead, cinnabar for mercury, and many other less known substances. Diamonds are found in some quantity, but all very small; rubies are found, and opal. This latter gem was found in rich fields during the past year, and created some excitement. It is sometimes in the form of a lining to volcanic,

or rather metamorphic, rocks; sometimes in pieces embedded in clay-like substances, and of various sizes. The value depends upon the thickness and brilliancy, as it varies from a lining as thin as paper to pieces a quarter of an inch or more thick, and from a perfectly colourless transparency to a milky iridescent brilliancy of extreme value. But when found it has to be brought to market, and then it may be of value or not, as it is successfully treated. For no substance is so brittle as opal; it cannot be cut like any other gem. A sudden small rise of temperature may break it; and its colours are everything. So that the fortunes, which appeared to be so near to the discoverers of these opal-mines, seem farther off now.

But the most valuable mineral of the country—which leaves diamonds and all gems, copper, tin, and ultimately gold, as insignificant—is the coal. This is in immense fields, and most favourably situated at several points of the eastern seaboard. First in importance is the Hunter-river field, underlying all that valley, and coming down to the coast at Newcastle: the area of this field is believed to be 8000 or 9000 square miles; it is rich in both quantity and quality of fuel, and most accessible. This field is continued southward, passing round at the back of Sydney, as it were, on to the coast again, and along it from Botany Bay to Shoalhaven: about 3000 square miles more in area. Larger fields than these even probably underlie large districts in Queensland, at Darling Downs, and the valleys of the Fitzroy and Burdekin waters; besides which there are other fields in the interior, not of any value yet. For these remote fields are not open to the world, as coal does not stand

any land carriage until population becomes dense; and although coal may be seen in the bed of a river in the interior, as it is in the Mackenzie and Burdekin, it is of no value nor use. If copper-mines, or such large works requiring much fuel, should arise actually upon a coal-field, as is the case at Peak Downs, coal-mines may be opened, but not until all the more available fuel of the forest is consumed. Therefore the only coal-fields of present value are those upon the coast—in fact, upon navigable water—of great richness and no depth; as the Hunter and Illawarra mines in New South Wales, and the Brisbane-river and Mary-river fields in Queensland.

The valley of the Hunter is altogether a remarkable district; it is rich in soil, in a temperate beautiful climate, and rich in minerals. It grows immense supplies of meat for Sydney, nearly all the food for Sydney horses, besides grain, wine, and fruit; and it has an immense export of coal at Newcastle. The mines are within a very short distance, or none, of the shipping; in thick seams at little depth, and of coal better than any except the best Welsh. They have been wrought for long, but to an insignificant extent until of late: twenty years ago the value of coal exported by the colony was about 2000*l.*; it increased one hundredfold in ten years, and has again doubled since. Nearly all of this came from the Hunter, and the colonial consumption increased quite as rapidly as the export. The increase of value, however, does not indicate the increase of quantity; for the cost of raising it has fallen enormously, until now it is down to 9*s.* per ton delivered on board ship. The quality of this coal is such that it is cal-

culated by shipowners to raise exactly ten per cent less steam than the best Welsh.

New South Wales now raises upwards of 1,000,000 tons of coal annually, nearly all from the Hunter, but a little from the Illawarra or southern field. This is also upon navigable water, most cheaply raised, and good; in fact it must have all these advantages to be wrought at all near a field that can deliver the finest fuel at 9*s.* per ton. This competition keeps back equally fine mines in Queensland. On the Brisbane river, not far from the capital, similarly situated rich coal has been wrought for many years, but of late the export fell off until it has ceased. North of that again rich coal-fields are upon the Mary river, another navigable stream, having a rich valley under maize and sugar-cane; and these also are at present closed by the Hunter coal. Farther north there is no coal known so well situated as these fields, although enormous fields occupy large portions of the interior; but the future colony of the north, failing southern supplies will have a very fine coal-field near Port Denison, at no great distance from water carriage.

This Hunter coal is the principal and almost sole fuel of a large intercolonial shipping; it is used by all Australian mail services, and is exported principally to India, China, and the East generally. There are many more coal-fields in the Pacific and east; there are magnificent coal-beds in New Zealand, India, China, British Columbia, and elsewhere—indeed there is no conceivable possibility of the coal supply actually failing; but those which produce coal cheapest are the fields upon which all depend, and by which countries gain the start one of another. As long as

steam is the motive power, so long, it appears, we must depend upon coal; and the measure of that power is the price of coal. Already some of our producing power has been lost by the advance of this price, and foreigners can compete with us in several manufactures; as they obtain coal more cheaply, they will again undersell us in more productions. But by having been the lowest coal-sellers, we have been in the custom of supplying an immense proportion of the fuel for shipping, and this we need not supply to such an extent in future. For a field like that of the Hunter, which can ship first-class coal at 9*s.* or 10*s.*, must soon supply all neighbouring seas with fuel for their shipping, perhaps for importation; and the more it supplies, the less will be shipped from home. Already it is known all over the Pacific, and may be found competing on the Californian coast with another profitable field opened in British Columbia. The Americans raise coal upon the line of the Pacific railway, both in the Sierra Nevada and the Rocky Mountains, but none on the Californian coast.

The Hunter valley has raised a considerable town upon its coal—Newcastle, where more industries are being established through its advantages in this respect. A considerable quantity of ore is smelted here, brought from various parts of the country, some from South Australia and Queensland even, and only through the cheapness of its fuel. At their mines these ores would be smelted, as most are, by the timber of the forest, which being excessively dense and heavy is good fuel, and in unlimited supplies; but the best wood will never approach coal, and the cost of carriage may be less than the difference between the cost of timber and the cost of coal. Hence already there

is made here in these smelting works a beginning of that manufacturing industry which coal always builds up. Besides these and many manufactories along all the coasts, this coal-field has been the chief cause and mainstay of the intercolonial shipping, which is principally steam; and this shipping again has created building yards; and these, foundries, all fed by coal. But hitherto the colonies have been importing their iron, to work to their requirements with their own fuel; this is unnecessary and only temporary.

Iron abounds in rich ores in many parts of the continent, and is as advantageously situated as even coal is; indeed, no situations could be more favourable to manufacture than some spots in New South Wales and Queensland—as Berrima and the Brisbane river. The first is about 80 miles from Sydney, in a tract of highlands, having a mild English winter and a summer too late for the vine. The ores of iron are in masses upon the surface of the country, of unknown extent, containing as much as 70 per cent of metal, capable of being wrought into steel of a character only found in Sweden. This in one of the finest forests in the country, perhaps in the world, for strength, durability, and size of timber, and having the best of freestone at hand. So near the capital and upon the main southern road, the field has been wrought, but never successfully. Sometimes the furnaces were of a wrong form, sometimes of bad material; sometimes the fuel was insufficient, or the labour: from one or another cause more than one strong company have given up the attempt to produce iron here cheaper than imports. But now it is known that several seams of coal are inside this

field of ore, and as a railway passes near, it is probable that another attempt will soon be made.

Near Brisbane there is a still more fortunate iron-field. It is upon coal now being wrought and proved to be good fuel, and it has the other advantage of being very near navigable water. For the cost of carriage is of the first consequence in production, as it is the price when delivered in market which decides the fate of the manufacture; and no carriage is so cheap as that by water. Many more iron-fields exist, and possibly with coal; but those which can deliver their produce cheapest in the largest markets and ports will take the lead, and once having obtained it, will cut down all competitors. Those fields will either be upon navigable water, or, if inland, have very short and cheap access to the largest ports. At such spots as coal and iron appear, manufacturing works will inevitably follow, and under ordinary good government, the climate will principally regulate production. For whether the soil is good or bad, or it grows wheat or wool, is of little consequence; imports will supply food. Indeed, soil is of the least consequence to a young State under modern civilisation. If an isle of coal and iron were to be found in mid ocean, it would become an immensely wealthy settlement in a few years, and be able to buy up an archipelago of fertile islands.

These considerations point to a new and greater era coming into view for these colonies; and it is to be regretted that Victoria, with the most vigorous population, should not participate in the great advantages which coal gives to New South Wales and Queensland. They have struggled with the climate to establish agriculture in all

the colonies, but have hardly grown their own bread, and it is principally supplied by one small province; yet grazing and mining have fought their way to be the real exporting and enriching industries. Mining has gradually extended to the baser and more useful metals, and upon them a manufacturing industry is already taking root. As coal raises iron, both will lead to ship-building and iron-founding; these to textile manufacture; and so on through the range of most imports, until those colonies may one day become the manufacturers of the Pacific and the East. Unless China opens her coal-fields, there does not promise to be any competitor to the future manufacturers of New South Wales and Queensland, New Zealand and Tasmania. For climate and an inland position will fully equalise the advantages India may have in labour, besides a population which is slow to learn; British Columbia has not the ports nor the climate; nor has any other State coal so accessible.

CHAPTER XII.

Transit of produce by bush-roads—Navigable rivers—Railroads—Railway systems and cost—Coast and ocean shipping—Mails—Telegraphs.

THE next stage, after production, is the collection of the produce of the country for exchange by commerce, from the interior to the coasts, from the coasts to markets. The first process is by the roads to the ports, and they are of the most primitive nature in a new country. The bush-road is no road, in one sense of the word, but simply a track through the forests and plains; all the interior is called 'bush.' The men of that interior travel by the slightest tracks, and when a laden wagon has once crossed the bush, there is a road. When the squatter first drives his herds or flocks out to new country, he travels by chart and compass, or by a watercourse, through a country which he has explored; his men are guided by a line of blazed trees, a 'marked-tree line,' when there is timber; the wagons follow them, and their wheels leave marks which are easily seen. For in the dry interior many seasons' rains will not efface the deep ruts which a heavy dray will make in new ground. These tracks become roads, and carry the traffic of many years, until increasing population and production require some clearings in the forest, cuttings in the defiles of

mountains, and eventually bridges; but it is only near the coast, as roads join and become overburdened, that macadamised highways are made.

There is no particular and stringent regulations about a 'right of way.' The first road is used until a settler, in a hurry for his supplies, or riding by forced stages on business, finds a shorter cut or a better crossing to a range or river; then the new line is marked, and becomes a road. In Queensland the law does not define what a road is, and carefully leaves that to settle itself; but accepts and measures the shortest routes for the mails, and provides that travelling stock, which is the principal trade of the interior, shall have the right of grazing anywhere within half a mile of a road. In New South Wales a road is declared open by government, and none others are legal passages; here also a similar width is allowed to stock. These are, of course, in the leased lands of the interior; but in purchased lands roads are defined—the government, however, always retaining a right of resuming land for roads or any public purpose.

This traffic is by drays carrying from three to six tons, drawn by six or eight horses, or twice as many oxen. Wherever metal is used, as near the coast, horses are generally used, for bullocks' feet are unsuited for hard ground and cannot be well shod; and always, if horses for draught are plentiful, they are preferred; still throughout the far interior horned stock are much cheaper and more obtainable at any time. Otherwise, there is not much choice. Bullocks are cheaper and as strong as horses, but they are not so quick nor so tractable; they never pull together like horses; but then they do not require corn-

feed to work well, and being less valuable, involve less risk. The cost of this transit is excessive, for it is slow and arduous, and it depends so much on the weather. In some seasons the roads are rich in feed, like a wheat-field, with water every mile or two; at other times bare with travelling stock, withered by drought or burnt black by fires, without water for a day's ride; and again, soaked by continued rains, every watercourse flooded and impassable, the country like a morass; besides the ever-varying feed and condition of the cattle. Hence the time required for a journey is never certain, and the rates of freight always varying and always high. The nature of the country, as it is level or mountainous, settled or only occupied, again rules these rates; so that no rule is generally applicable. In a perfectly new settlement a long land carriage may cost 10*l.* per ton per 100 miles, and take from three weeks to three months for that distance. In a settled country, in the open plains beyond all ranges, the rates may be from 50*l.* to 10*l.* for a journey of 400 miles, according to the season.

This expensive carriage is one of the principal drawbacks to the squatter, and enters largely into the calculations of a station. He imports every article used in the bush except meat and flour, and the latter is generally carried a long way from the more settled districts; he carts from port all tools, groceries, and station supplies, all the wire to fence his run, and frequently the iron roofing for his buildings. All his wool goes by this tedious journey to port; after which it takes months to reach the London market; so that carriage is a most important item in station management. The cost of it is, however,

only the first charge, for the delays mean interest of money, and that is from ten to twenty per cent. A station 300 miles inland, having a stock of 50,000 sheep, in the less settled districts, without railways, will do well if all the wool is in port in six months, and sold in London, proceeds credited, in twelve months. For a wet season may delay all carriage for months, and a dry season stop it altogether. There are stations in the interior of Queensland far from railways or riverine navigation, where the wool has remained twelve months on hand. Now the clip of a station is worth from half to a third of the whole property, as general commerce is dull or flourishing; so that the interest upon this wool may make or mar the squatter.

Another heavy cost is involved by these bush-roads where gold is suddenly discovered in some unfrequented district. Travellers find the place easily; but it is, of course, quite unfit to support any population. Nothing but meat is forthcoming; all else has to be drawn from the nearest port. First, there is a scarcity of carriers and cattle—the carriage rises; next, the road becomes bare and teams starve—carriage rises; next, the tracks become cut up, ploughed into ruts and bogs, and carriage rises; until in a few weeks traffic is impossible, and carriers will not move. Then flour will be scarce to the diggers at 2*s.* per pound, tools will be extemporised out of wood, but everything delayed until supplies arrive. In this way the rate of carriage has risen to 100*l.* per ton for a journey of less than 200 miles from Sydney. But the cost of carriage, the interest of idle money, and all computable loss, is less than the indirect loss and increased

cost of production caused by the delays and troubles which depend upon weather. An up-country merchant has always a large proportion of his capital idle on the road, perhaps three times as much as his stock on hand is worth; the squatter never knows when his supplies may arrive, and has to leave a margin of some months, or he may ruin the whole year's operations.

The first relief to this costly land carriage is water carriage, the cheapest of all; and all bush-roads make to the nearest navigable water. It does not signify if it is a fine harbour or a dangerous bar, a noble river or an intricate salt-water creek; if a boat of any description can float and get away, it is far preferable to the road. Hence the heads of all navigable streams and inlets, the heads of all bays and bights in the coast, are sought for 'landing-places;' and a splendid harbour may be neglected for a most dangerous shallow channel, if only the latter is more accessible from the interior. Hence the finest harbours have not the largest or most thriving settlements. Next to Sydney Harbour, the best and safest anchorages in Eastern Australia are at Gladstone and Port Denison; they are fit sites for a commerce of world-wide range; they have been laid out, and encouraged by heavy expenditures, to become great settlements, and have each been talked of as most suitable sites for capitals; but both are poor and depressed. Neither is the most easily reached by the inland traffic of its district; other points have been found, up rivers and in dents in the coast-line, open at the back by gaps in ranges, and altogether more accessible; and these, however bad as ports, have taken the trade.

A large portion of inland traffic is taken off the roads

by the navigable streams of Riverina. The main artery is the Darling, which is assisted by the Murrumbidgie to collect the produce of that country into the Murray, whence it passes by a short railroad to Melbourne. The head of this navigation is about 500 miles inland from any port, but not more than 350 miles from railways; yet goods are shipped here, and carried a distance of upwards of 1000 miles by water, then 150 miles by rail, rather than encounter that overland route; such is the difference of cost. But navigation is not always open. The Darling is kept a stream in all seasons, but no more, by the drainage of New England and the western slopes of New South Wales; but Queensland water rarely reaches its channel, and only after heavy floods can any traffic be undertaken. It is not a noble river; but a narrow, tortuous, sluggish stream, rarely travelling more than two knots an hour. The Murrumbidgie and the Murray, fed by the Snowy Mountains, although draining an infinitely smaller area, are fine rivers. But all are difficult to navigate; they have many twists of their narrow channels, many hidden logs, and frequently very little water; so that only specially-built boats perform the journeys, and in comparatively long time. These are one-wheel boats, of the lightest draught, and do not carry, but tow barges which hold the freight. There is some danger of a capsize, by catching on a log or in grounding at a bend of the channel; but nothing considerable, for insurance can be effected at moderate rates. This navigation is irregular, for rains may or may not fill the channels; they may be closed for long, or open for a year in wet seasons; but the produce and supplies of the country are always removed much

more quickly and much more cheaply than of any other inland district.

Besides this large system of inland navigation, there are only a few short stretches of tidal waters up some of the principal rivers, and many of these have bar mouths. The Hunter, Clarence, and Richmond rivers, in New South Wales; the Brisbane, Mary, Fitzroy, and others, in Queensland,—all relieve the country of a few days' land carriage; and the Gipp's-Land lakes support several steamboats. But roads must do the rest; and there are now always railroads for some distance from the principal ports. Formerly costly macadamised roads were built, as bush-roads centred into a main highway, and these kept up by tolls and continued annual outlay, an endless system of repairs, expedients, and improvements, till some cost as much as railways.

Railways were first made in the colonies with great fear and trembling; regarded by some as unnecessary and unproductive works, only capable of paying by future prosperity, which should be waited for, and permitted by others for the expenditure by which they hoped to benefit. But none thought of limiting their expenditure to their requirements, particularly as in those days cheap railways were doubtful innovations; so the model of the finest roads in England, permanently made for an enormous traffic, was used. None of the early lines could repay at this cost, unless such as went from Melbourne to her wharves, three miles distant; and ever since the first attempts the lines have been made upon reduced and again reduced estimates of cost and carrying power. There was some hope entertained that railways would change the

face of the country; that all lands near the lines would be covered with agriculture as soon as cheap transit was secured, and an immense population be settled. But there has not been any such result; the population did not come for land so much as for gold; and neither railways nor land laws can divert the capital and labour of the country from wool and gold. Railways may precede settlement in America, but that would be a hopeless experiment in Australia.

When the first hopes of the most sanguine failed them, and the immense cost of railways was fully realised, a common prejudice arose against such public works, and it was declared that railways in the colonies did not pay. Capital to build them was borrowed by the State, heavy taxation imposed to pay the interest, and then the lines barely paid their expenses; therefore, the reactionists said, such works as railways should be left to private enterprise; if they can pay, capital will make railways. But this does not follow. Capital for such purposes must come from England; the colonies do not possess it; and the foreign investor will not be able to make and manage a railway so well as the people of the country—therefore he will require a much larger return for his money. He might lend to the colony for five per cent, but no one would invest money in an Australian railroad without much greater inducements. When a colony borrows, it is, of course, pledged to the last man, railroads and all, to pay interest, and it may be said that a railroad should stand upon its own merits; but still, the whole community can borrow at a lower rate of interest than an English shareholder in an Australian railway would expect, and thereby the

community would gain the difference, if the work is profitable. That it is profitable can be seen by a consideration of the whole effects of the lines, not by a balance of the receipts against expenditure and interest.

If any company of carriers were to offer an inland community in Australia to carry all their goods for them without any delays on account of weather, in any fixed number of days, under a penalty, that community would willingly pay more than the current rates of carriage; for the uncertainty and risks of the long cartage costs more than a little extra carriage. And if the carriers offer to convey passengers by a quicker means than any existing, without extra cost, they will secure all that traffic. Now the railways do both, and more; they insure the arrival of goods and passengers, which alone is of the greatest advantage; they carry with more safety; and instead of competing with existing carriers, they carry for not more than half these rates, and generally much less. The community therefore gains enormously by the transaction. But the community in this case are the shareholders in that carrying company, the railways, and the only shareholders; and if they carry their own goods and they themselves travel so cheaply, they cannot expect the railways to do more for them. They take their dividends in the form of reduced rates of carriage. The railways stretch towards the interior from the ports on various points of the coast, for 100 or 150 miles; they bring most of their goods and passengers from these points. In New South Wales the traffic is about 800,000 tons and 1,200,000 passengers annually; and upon this they save in reduced cost of transit not less than 2,000,000*l.* ster-

ling. It is not fair, therefore, to compare the receipts for this cheap carriage with the expenses, and say the railways of the country only pay two and a half per cent upon a capital which was borrowed at higher rates, and consequently do not pay. By the 4,000,000*l.* invested in the railways, the colony save, at the lowest computation, half that sum annually, and gain greater indirect advantages. Those who do not participate in the cheap carriage, the settlers in districts which are not benefited by railways, may say they are not fairly treated; and it would be fairer to charge comparatively high rates of carriage upon all lines, and credit the public revenue with the profits. But as it is, the exceptions are few; and no one shareholder in these lines, no settler in the country, is altogether passed over in the indirect profits they confer.

But new States are not as old; they have no roads whatever; while the people are accustomed to have rapid communication, and some find good roads a necessity. In any case, without railways existing, the colonies would have to incur enormous expenditure to make roads, and no kind of road is comparable to that of iron. These bush-tracks are not sufficient; as they approach the coast they have all to be metalled, bridges and cuttings made; and then they have to be kept in repair. As traffic increases they have to be widened, extended, and they become a heavy annual expense. Railways are most expensive; but to confine the roads to those of stone and timber would not relieve the expenditure so much as may be supposed: the question becomes one of cost. A railway may be made altogether unnecessarily dear, too good for requirements, and this has probably been done in Australia, as it has in

most countries; for our ideas of railway building have very much altered in the last few years. The old lines are broad, level as far as the eye can see, strongly built and ballasted; and the new lines, at least in new countries, are anything but level; they appear to have as many and as steep declines as the face of the country; they are narrow often, without ballast sometimes, and greatly cheaper always. The colonies are now quite aware of the advantages of the new system, and avail themselves of it.

The lines built first, thirteen or fourteen years ago, cost 40,000*l.* per mile; those built now rarely exceed one-fourth of that. The average cost of railways in some colonies appears excessively high; but it is not altogether upon this account, for there are very different lines in different parts of the country. In Victoria the broad gauge is used. works are most substantial, stations remarkably good, and everything handsomely done; these railways cost an average of 34,000*l.* per mile, which is more than Scotland, or any country except England and France, has spent. New South Wales began most extravagantly, and has now come down to something like parsimony; her latest lines are costing much less than the average of all her lines, which is 12,300*l.* per mile; about as much as those in Canada. Queensland is building still cheaper lines. But none manage so cheaply nor so efficiently as the United States; they have built a mile of railway for every thousand of their population, at 8000*l.* per mile. Victoria has one mile for every 2600.

Cheap railways have had a great many enemies in the colonies, but they are giving way; and the opinion is becoming accepted that a road, whether iron or stone, to do

little work, can be built for less than one that has to carry more. In a country like Australia, where population cannot become dense except upon the seaboards, or perhaps exceptionally at some far inland mining district, there is not much traffic, and that decreases as we go inland. Therefore the railways which are required for densely-peopled countries will never be required; unless in the singular colony of Victoria, of which really no part is far inland. So that the estimates of great permanent highways as used in England, or indeed in most countries, are only extravagant here; and the small traffic only requires a small outlay in roads. Take any squatting district, that is any district 200 miles from the coast, and the population, towns included, will be found to be not more upon an average of country than one for every ten square miles; fifty miles farther, not half that; and the carriage for these will not altogether, in goods up and produce down to port, exceed three tons per head annually; that is to say, that in the interior one strong goods-train every six months, up and down, could do all the carriage of a tract measuring 100 miles square, or 10,000 square miles.

Under these circumstances, a very cheap line is all that is required; not to remove produce quickly, but to do so with certainty. No speed is wanted so much as the certainty of communication; if the delays of wet and dry seasons, bad roads, and accidents to teams are avoided, wool will be soon enough in market; only certainty within any ordinary time. A train travelling five or six miles an hour would do this. A narrow gauge, light rolling-stock or the severest gradients, are all that is required; and such a line could be built for 4000*l.* or 5000*l.* per mile, in-

cluding bridges. This is now arrived at; and a line in construction in northern Queensland is upon such estimates, and quite equal to all requirements of the country.

Railways, fed by roads, only called a portion of the trade to the capitals; the greater part is brought in by shipping. The sea is the principal highway of the commerce of all these colonies, except Victoria. This colony has several lines of rail through the country, centring in Melbourne; but beyond that, she taps the trade of a large part of New South Wales. Riverina is in New South Wales politically, but in Victoria commercially. For her trade is all gathered by her navigable rivers; these all enter the Murray, which is the boundary of New South Wales and Victoria, but much nearer the latter. A Melbourne railway touches the Murray, intercepts the traffic, and takes it to Hobson's Bay in 160 miles. Whereas by the river it would have to encounter a long tedious voyage to the sea, and then find no port suitable for foreign shipping. Melbourne is the port of all Victoria, and of that large wool country in the south-western and interior portion of New South Wales.

Elsewhere commerce is by sea. Small craft enter all the possible creeks and rivers along the coast, collect and transmit goods to larger ports and larger shipping, until finally it enters the commercial capitals of the country. These are, besides Melbourne, only Sydney, Adelaide, and to some extent Brisbane; for Queensland trade goes nearly altogether to Sydney. This intercolonial shipping is to a large extent steam; not so much on account of the seas and winds, or the value of the trade, as because coal is cheap. Sailing craft have very little to carry now except

timber, coal, farm produce, and grain; they have no passengers, and hardly any article of import or export: these can afford steam. The coasts are regularly served by lines of steamers, as far north as settlement extends, and all wool and produce is carried by them to the commercial centres for foreign exports; they carry nearly all imports, manufactures, whether colonial or imported; they do all the passenger traffic; and leave only the cheapest and bulkiest articles to the sailing ships.

The seas upon the eastern coasts are gentle, and of little danger; and even in Bass Straits they offer no great risk to navigation. Towards the north again a ship passes from smooth to smoother water, until it passes under the lee of the Great Barrier Reef; a beautiful but dangerous sea. This reef is the great bank of coral which extends along the north-eastern coast from the tropic; founded upon the continent, it extended seaward as the land sank in the course of ages, for the ocean of builders only work in shallow water; so that it now stands clear of the continent, leaving a narrow inside passage, extending north to New Guinea, where the ship may pass out to the ocean, through innumerable and ever-changing coral isles and reefs, the most difficult navigation in southern seas.

The foreign trade of the country is not altogether with Britain, but principally; and the commonest route is still out by the Cape of Good Hope, and home by the Horn; following the 'brave west winds' throughout. Many ships now work home by the Cape, in certain seasons, and in particular latitudes; but if the winds of the Horn are stormy, and the voyage one of the hardest, still it has the best wind generally for the run home. These 'west winds'

have had no small share in the settlement of the country. The voyage to the antipodes used to be of appalling length, and deterred most of those crowds which seek the convenient new world; but that voyage would have been months longer in almost any other part of the world, simply because these winds are so constant and strong in the South Indian Ocean. By these west winds the voyage of 16,000 miles has been made under canvas alone in 51 days, frequently within 60 days, and good wool ships generally perform it in 75 or 80 days; but in other seas the same distance would probably require one half more. Under steam all this is changed, but the country was settled by sailing ships.

The favourite mail routes are according to the position of the colonies. The shortest for the most of the colonies are by Western Australia to Galle and Suez, and for Queensland by Torres Straits, the difficult passage, to Batavia and Galle; each of which is now in use. Another line by America is of the greatest consequence to New Zealand; it will also come into requisition for the Fijis, which will soon be a political as it is now a commercial colony, and ultimately the course of trade may divert much of Australian commerce this way; but in the mean time it only concerns New Zealand. The northern route is of great importance to Queensland, as saving time and expense; not so much to the southern as to the northern and the future settlements of the colony. The Batavian government have always encouraged this scheme, and some trade may be opened; for although Australia can sell little to the East except coal, she will always be a good customer for tea, and probably coffee; while the similarity

of pursuits, and possibly of labour, between Northern Australia and the Dutch settlements will encourage intercourse. This route may again open a large passenger trade by the Suez Canal; and it is even possible that this may be the cheapest route for emigrant ships under steam, for there are so many stations in the course where steamers could touch for coal and provisions. Emigrants generally sail under canvas yet; but the day seems not far distant when a sailing vessel, particularly a wooden sailing vessel, will be considered an ancient device, at least for passengers. The difficulty in coaling, and consequent necessity of carrying a large supply on board, is the principal obstacle to a steam route by the Cape; only a large number of first-class passengers could pay for this coal, and very few will now undergo a long sea voyage without a break, if they can possibly avoid it so well as by the present mail routes.

Throughout all the cavilling about railways and public expenditure, no one in the colonies has objected to telegraphs; and while frequent demands are made for cheaper rates of carriage, very few, except the press, have thought telegraph charges high; consequently these accounts nearly always look well in colonial balance-sheets, and telegraphic communication is fully appreciated; the lines are numerous, and rapidly being extended. One of the greatest feats of Australian settlement has been the telegraphic extension across the centre of the continent, lately achieved by the colony of South Australia. Propositions had been made for joint exertion among the colonies to procure telegraphic communication with the rest of the world; but this colony preferred to act alone. They wished to

secure the line in their own hands, and to open up their interior, and more particularly their new northern settlement. For the schemes of other colonies were opposed to making the line across the interior. This was an undertaking of no ordinary difficulty; for beyond two or three hundred miles the country was uninhabited and unfit for settlement. Explorers had seen portions of the route alternately a desert and a shallow sea, without hills or watercourses; it was not sufficiently known for them to select stages, and every step had to be explored as the line went along. Add to these the difficulties of carting supplies and material over this desert, to points five, six, and seven hundred miles from any port, the risks of drought and flood, the insufficiency of the timber in most places, even the frequent scarcity of grass for cattle, and the undertaking will be seen to reflect the highest credit upon all concerned. Everything was done from the two termini as bases, Port Augusta on the south, and Port Darwin on the north; between these points 1400 miles of telegraph was built, crossing 1100 miles of uninhabited desert, in a few months.

The cost and the difficulty of maintaining this line will, however, be excessive. The remote inland stations, necessary to repeat and to repair the line, will require reservoirs of water, and large supplies of requisites to be kept on hand, in case of droughts or floods cutting off communication by the roads; and there is not much prospect of that interior being ever settled in the most partial manner. One thousand miles of a submarine cable connects Port Darwin with Java, across the continent is 1400 miles; and along the east and north-east coasts the line extends

3300 miles. But more than thrice that length of wire is used by the branch lines throughout the colonies; and the northern extension is now in progress towards Java also. This line has been vigorously pushed by Queensland down to the farther side of Carpentaria. In this progress the telegraph became a gold-discoverer, and opened a very rich field. Crossing from the east coast to Carpentaria, in the 17th parallel, a station was made upon the Etheridge river, far beyond any squatter's station, and in digging post holes, alluvial gold was found. The line commenced business by announcing the discovery, a rush set in, and by the aid of this telegraph a large mining-field immediately opened; for the spot was so remote in a tropical climate, that it would almost certainly have been abandoned soon after discovery had the telegraph not kept up constant communication. It is now a large quartz-mining district, and remarkable for both extent and richness.

Telegraph wires are stretched straight across the country, and do not follow roads and railways; they go far beyond both. The principal expense in the south is to clear timber, to keep the wire clear of any falling timber and off the moisture of vegetation, which may deflect the electric current; and in the north, great expense is incurred by the absence of good timber, so that iron poles have to be used across long distances in the interior. The climate is peculiar in the frequency of thunderstorms and heavy electric discharges. Telegraphic communication is being daily interrupted, and duplicate lines are very necessary. This route to Java by Carpentaria is absolutely required to give the colonies daily news from the world,

and having another cable to Java, it will complete a thorough system. The value of the telegraph to the police is fully felt here, as in the most populous countries. Where every man is a horseman, any man 'wanted' in the interior has only to get a good mount, and he can defy the police. But the telegraph intercepts him wherever he may next appear; a few miles of wire may save the expense of a body of police, and do justice more effective service.

CHAPTER XIII.

Trade in live stock—Droving—Meat-preserving—Breadstuffs—Imports—Interior commerce and manufacture—Wool, effects of its price—Wheat—Coal.

THE intercolonial commerce is principally in meat and grain. Victoria has only about one head of cattle and sixteen sheep to each head of population, therefore requires to buy largely for her own consumption. This supply comes from New South Wales and Queensland, travelling down the interior rivers to the Darling and thence to the fattening runs of Riverina, or perhaps direct to market. Stock to be fattened, called 'store' stock, leave their breeding-runs at any time of the year if the roads are in good order, if there is plenty of grass and water; they have a right of way a mile wide along any road, and camp where they please. But this is a severe tax upon the holders of runs on these great highways, and many complaints of this system, and proposed remedies by tolls, &c., have been suggested; but nothing can be done. The law compels stock to travel six miles a day, but beyond that the tax must be submitted to. But this custom is abused in dry seasons; every one sends stock to travel during droughts if there is hope of better feed elsewhere, and the roads are made as bare as a ploughed field in a few weeks, stopping carriers and all other following traffic.

This droving was at one time connected with exploring as a means of settlement, and herds used to be taken from New South Wales to South Australia across what were once considered the deserts of Riverina. That used to be called 'overlanding.' But for many years the travelling of stock has been tending to become anything but an adventurous enterprise. The better the routes are known, the less risk and excitement and possible profit in droving, the less inducement for the life, and the more monotonous that life. Still this droving of stock is most peculiar to Australia. It exists under a remarkably healthy climate, where men can camp out in any weather with the utmost safety or even indifference to health, under a climate which has no winter, so that stock can feed to market in any season of the year; in a land which has no large or dangerous beasts of prey, so that all may camp in safety from attack; and under perfect security of law. No other country can offer all these conditions as Australia. Cape Colony has wild animals, Texas and Mexico have Indians, and other countries have each some great drawback to the free and easy passage of live stock; overlanding is Australian. The herds or flocks of one expedition may cover miles of the roads or one small camp; they range from store stock of 20,000 sheep or 3000 head of cattle to fat stock of 400 head; the camps may contain fifty men or two. During the day the stock are allowed to feed along rather than driven, to rest in the heat as they please, only being kept together by the drovers; at night collected together and surrounded by fires, a watch set, and their drovers asleep beside them; they too lie down quietly. Animals in Australia altogether take life easily; they are

seldom wild or vicious, and always quickly quieted; the bull or horse, which no one but his keeper can approach in England, becomes quite a harmless lazy creature in the bush. Nor is the life a hard one for the drovers; camping out nightly, and never being under a roof for months, is no hardship in a climate where it does not rain for months, and where there is no winter. The hardship and difficulty is in dry seasons, when the stock are always hungry and miserable, the horses always knocked up and starving; when long stages have to be travelled for water, and the discontented animals will not camp at night; then the roads become marked with dead and dying, and every camp leaves one or two victims to starvation and fatigue. Stock are travelled in this way any length of journeys, as from Carpentaria to Victoria; the cost of droving will be about 20*s.* per head on cattle and 1*s.* on sheep, for 1000 miles in the remote districts, decreasing as settlements are reached. By a journey of that distance they may be doubled in value or they may come to a glutted market. They then, if 'stores,' pass to the rich salt-bush country of Riverina, the Gipp's Land flats, or to the cultivated paddocks of the freeholder; between which and the market the rise in value is rapid.

A large market like Melbourne, when fed by roads having tedious communication with business centres, without telegraphs and railways, is very apt to have irregular supplies. The market was sometimes glutted and sometimes bare; in this state of things meat-preserving first arose, to relieve the market when overstocked. The largest and most successful of these establishments was at Melbourne, and it was the first; it sent home in four years

and a half, when the late depression in wool and in stock stimulated preserving, meat and tallow to the value of 600,000*l.*, having killed 780,000 sheep and 11,000 cattle. At this time many other companies started all over the colonies, but none with the same success. For although this had to pass through many experiments and mistakes, by which some others may have benefited, still it always had greater experience to guide it, and the greater assistance of a ready market for everything saleable; they utilised every portion of the animals, selling butcher-meat, bones, oil, and even manure to the high cultivators which a large city always creates in its environs; and by its facilities of shipping it was enabled to ship large quantities of prepared manure to Mauritius. This industry rose rapidly during that depression, and in 1871 the meat sent home by Australia must have valued nearly half a million sterling, besides an excessive export of tallow and hides.

But since then there has been a marked falling off, until most of the preserving-houses and many of the boiling-houses have now closed. This arose from the difficulty of selling tinned meat at home, and the increase of money in circulation in the colonies. At the very time that meats were forced everywhere in England, until they were sold at less than cost in many instances, a rapid rise in wool sent out unexpected remittances of some millions sterling to the colonies; then everything rose in price, particularly stock and squatting property. Then it was found that butchers could give as much for meat as the tallow and preserved meat could realise; the risk of shipping and the delay in selling were avoided; so meat-preserving declined. But this decline will not probably

continue. For Australian meat has been successfully introduced; and if the prejudice is strong against it in the minds of those who should be its principal buyers, yet the general verdict is in its favour; it has created some demand, and prejudice will give way in time. There is no question that the amount of solid food in a pound of the meat is greater than in a pound with bone and uneatable matter as sold by butchers, and it is half the price. But in summer vegetables and fish are so cheap, while less carbonaceous food is required in that season; so that the demand will not be constant. And the cost of the preserved meat is much increased by the retail trade of the poorer classes, as much as doubled sometimes, while a smaller quantity than two pounds cannot be bought; so that the supply is not regulated yet to suit its market. These and other difficulties will be overcome; for the demand has arisen, and the industry is established in the colonies. It will not probably succeed by every joint-stock company under ordinary management, but more likely become a specialty, like brewing or a manufacture, and certain brands will obtain the market.

The supply of breadstuffs employs a deal of intercolonial shipping, as it used to freight foreign vessels a few years ago. No colony on the continent, except South Australia, has hitherto grown her own bread; but this exception can more than feed all. The crop varies extremely in all the settlements—that is of wheat, for no other grain is used as food to any perceptible extent. Victoria was the best customer, as she shipped largely to New Zealand at one time; and when her crops were poor bought to the value of 800,000*l.*, or half that in a good

season. But her production has steadily increased; her customer has more than supplied herself, so that she takes little or none now. New South Wales also, although she supplies Queensland with nearly all her flour, merely buys grain to grind; very little for her own use. The crops of South Australia vary extremely and most irregularly; in 1865 she is reported to have exported grain to the value of 1,200,000*l.*, in 1868 not half that quantity, but next year this small export increased by a half, and this year it is probably 1,500,000*l.* of grain. Her market must now be found in Europe for almost all her surplus, as the colonies of that group will be fully self-supporting, except Queensland; and New Zealand also ships to Europe.

The interior of the country imports nearly everything they use, even their flour. In most countries the breadstuff used is the produce of the land, and even in new countries immigrants accustom themselves to the new food of the country; but not so here. Wheaten flour only is used, and must be carted everywhere, if it cannot be produced. It is not as in America, where the settler uses maize as freely as wheat; no one dreams of eating maize, nor are any of the innumerable ways of preparing it ever heard of, although in all the country north of Victoria the maize crop is by far the largest, far more than all other crops put together, and it is the natural food of the country. One cause of it never coming into use is that early governors used to feed convicts upon it; it became notorious as a prison diet, and gained popular dislike and aversion; and another hindrance to its use is the same ignorant prejudice which objects to Australian meat at home. Wheat is the natural food of South Australia,

wheat and oats of Victoria, maize of New South Wales and Queensland; but neither maize nor oats are used except for horses, and nothing but the finest wheaten flour is good enough for the immigrant when he lands here, although he was reared on potatoes or porridge.

Meat is always, and grain sometimes, grown by a district for its own use; but all other food, and all articles to carry on its industries, are imported, with a few exceptions of recent origin. The 'up-country storekeeper,' or inland merchant, sells everything wholesale or retail. He keeps flour, tea, and all groceries, drapery and woollens, cutlery, medicines; everything that any one can require. The imports sold in the far interior include axe-handles, iron roofing, wines, clothes, &c., besides a considerable proportion still of wrought leather and manufactured tallow, which the country exports so largely in a raw state. This merchant is therefore not a 'shopkeeper,' but a man of a much wider business, of more intelligence, always conversant with the whole requirements of his district, and generally familiar with its productions and capabilities. In the course of time he becomes interested in the progress of his town; he pushes some industry, or starts a new scheme; so that whatever may support a settlement, whether wheat, gold, copper, or sugar, whatever it may be except wool, the local storekeepers are sure to be interested directly. Wool, however, is left entirely to capitalists; a station as a rule is independent of all merchants except the importers, and keeps its own store.

Next to meat and bread, before a colony produces many manufactured articles, its chief imports are beer and spirits, woollens, cottons, sugar and tea, boots, &c.,

and haberdashery. The country may produce any quantity of wool, but not until population becomes settled can they work it with any prospect of success. This attempt is being made now, but success is doubtful. The manufacture of woollens has been carried on for long in New South Wales, but it has not increased to any extent; while the export of material and the import of the manufacture have increased most extravagantly. In New South Wales the quantity of woollens manufactured varies greatly and most irregularly, by the returns, without showing a wonderful advance; in 1862 they made 128,000 yards, half that next year, considerably more the next, up to 267,000 yards in 1871. But this industry has been established in Victoria, and is making rapid strides. There is no question of the energy of Victorians, and no doubt that they can make the most of their advantages; but it is very doubtful yet if they cannot import more cheaply than they can make a woollen fabric; and they have only carried on under the blighting influence of a strong protective tariff.

Sugar will be supplied by Queensland in a few years, if she gets fair play. But each colony has followed the home plan of looking for a portion of the revenue from this article; each protects sugar, Queensland herself included, and will probably continue to do so. As yet, this colony can only supply herself, but she has attained that in six or seven years of planting, and must now begin to export, and under disadvantages. New South Wales makes cane-sugar, and has increased her production rapidly; but she has only a small area capable of growing cane, and this is subject to frost, while she has no cheap labour; it is not likely, on account of labour alone, that she will stand

any chance in the markets of the world; and it is evident Queensland could sell more cheaply than N.S. Wales. Victoria is not a sugar country, but under protection the growth of beet has arisen, and an industry fostered which seems very likely to perish sooner or later. Tea will always be a comparatively large import, for the community use more tea per head than any other people; it is the one drink of all the interior, used at all hours most freely, and very much suited to the climate; for in the fatiguing life and dry exhausting weather of the bush, nothing is so invigorating and refreshing. The work done could not be accomplished without tea or coffee, and custom has chosen tea.

Such articles as are made out of tallow will soon be excluded from imports, for they do not require much skill or labour, are not dependent upon taste or fashion; while they are cheap commodities which will not afford much freight. Nearly every town of any size, and many boiling-houses, convert the tallow into soap and candles as soon as it is obtained from the sheep and cattle. Also with hides; imports are steadily decreasing in leather, plain or manufactured; and although the price of labour long precluded the manufacture of boots, &c., that is now nearly past; new methods and machinery, without duties, have created a large production of these and other leather goods.

But the importations of spirits and beer are immense, and always a mainstay of the revenue. The latter is largely made in the southern colonies; but in spite of a heavy duty, it has a hard fight against the public taste, and it frequently has to find its way into consumption disguised under English brands, or mixed with imported

liquor. Spirits are hardly made at all; and although the vine is cultivated extensively, and quantities of wine made, no brandy except French has any name or sale; it may be made to fortify wine, but never for sale. These wines have a very limited sale, and can barely support their production. They, too, have to contend against taste; they are often very bad, and if good are dear. The good wines seldom reach the open market, and any sound vintage incurs excessively heavy charges before it reaches the consumer. It may be sold at the vineyard for 1*s.* per gallon, as good wine has been sold at Albury; but the cost of distributing it to the consumer, with the risk and heavy interest on capital, will raise this price to 10*s.* or 12*s.* per gallon in a season. Those on the spot in a wine district may buy good wine cheaply; but most of the wine-buyers are in the towns upon the coast, and they can import much more advantageously, wine as most articles, than pay the cost inland carriage involves.

The imports of the country, as well as their exports, have been largely increased by the railways. As more produce can be brought to market, rates of carriage being reduced, larger crops are grown, more profits made by the interior, and they thus become better customers. As more imports can be conveyed up country by the same reduced freights, more are purchased; and the combination of causes greatly increases the business of the ports. But the mercantile transactions in the towns of the interior, as far as the lines of railway reach, are much reduced. For the settler finds that by the railway he is brought into easy communication with the best market in the colony, and naturally prefers it to his small

country town; even the retail trade is much reduced, by railway communication enabling orders to be more easily executed, and the customers brought to town. As a railway inland is completed, the villages are nearly deprived of stores, and the trade of towns greatly cut down; hence the ports become greater centres of trade, and absorb a startling proportion of the whole population of the country. In America and Australia, from one-third to one-fourth of the population is centred in the large towns.

The principal export of the country is still wool, and in one form or another it probably always will be wool; it is not a grain, nor a cotton, nor iron country, but a wool country. The price of this one staple determines the progress of the whole country more than all other prices; it regulates the price of money in the first instance, and through that the cost of producing everything else, the rate of progress, the wealth, and advancement of the land in every way. The future statisticians of Australia will possibly trace a connection between the number of suicides and of marriages and the price of wool; and this extreme influence of the wool-market upon all production and trade in the country was well shown during the late depression, and the subsequent rapid rise. As it fell, all live stock and squatting property became unsaleable, runs at length were of almost no value, and the stock realised only the price of their tallow; as the sales fell off, less money came to the country, less could be lent, and only at extreme prices, so all industry languished. As money became urgently wanted, securities were forced into sale, property sacrificed, families ruined, enterprise at once stopped, and everything seemed to be falling into the

hands of a few banks, who could do nothing with all their property. The mines yielded gold, the crops might be good or bad, but until the price of wool rose in London the country was extremely depressed; there was so little money in circulation. Even among the capitalists, one had to forbear against another and wait; the business of the country could hardly be carried on, property could not fetch money, because the money was not in the country. At length the price of wool rose, and everything changed as by magic. The rise was certainly rapid, as much as 50 per cent, and although trade at the time revived at home, this change in the colonies was almost entirely by the rise in wool.

It has been calculated that this advance of price caused remittances to be made to the amount of from 5,000,000*l.* to 6,000,000*l.* sterling in a few months. This money was not expected—it was beyond what had already been drawn for when the produce went home—and consequently there was no immediate use for it when it arrived. As the money of the community represents the property, each article having its share or price, when this fund of money is increased, each price is increased. Immediately everything rose in value. Property was withdrawn from the market, those who had bought in the last few months became independent at once, all industry started with renewed life; and instead of collecting all debts at any cost, capital now sought for investment. This large fund gradually found its way through many channels of commerce, enriching and invigorating everywhere, until a general rise of all prices became established. Then new schemes were brought forward, and everything was listened to by the

holders of this idle capital. So plentiful was money, that one bank held 1,000,000*l.* upon deposit, and the colony of New South Wales borrowed at 4½ per cent, declining much more than they required.

Then a mining mania set in. It so happened that a gold-mine in New South Wales at this moment turned out to be one of those extraordinary deposits of gold which occasionally stagger belief. Masses of gold, each a fortune, were raised out of a quartz reef, one after another, until the public eagerly bought up the claim. Then all adjoining ground in that gold-field was taken up by joint-stock companies; for this claim had at last proved that a joint-stock gold-mine could pay dividends, which Sydney people were formerly very loth to believe. There was no scarcity of capital, all that field found as much assistance as it asked for; other gold-fields brought forward showers of prospectuses, and in a few weeks several hundred joint-stock gold-mining companies were floated. Then tin came forward, and in the same way all the tin country was taken up by companies. Next, copper made successful appeals, absorbing large sums. In a few months millions, unheard of in the country, were subscribed to mining companies, a large amount of available capital actually paid up, and a perfect mania for speculating visited New South Wales and Queensland; leaving Victoria this time for newer fields, and bringing many of her miners north.

All this wool did; it supplies the life of colonial commerce. The prospects of its production increasing are very limited, as far as area or extent of wool country is concerned; but absolutely unlimited. Fencing-in runs,

improving the pasture and storing water, will still keep production on the increase; and if better tenures gave the squatters better security, or smaller grazing-farms could be obtained by men of experience and moderate capital, the yield of wool would continue to increase enormously. The future demand is a more important question than the supply. As yet, the English market is almost the only one, and the colonies depend upon it. A very few years ago it was said to be glutted, and that South-American wools could undersell Australian; but any fear of that has been again set aside, for the Plate-river wools are so inferior that they have not the same use as the colonial. Again, the English taste is annually taking more of the longer wools, and neglecting the finer varieties—tweeds are preferred to broadcloth—so that certain portions of the country will have better markets than others for their natural produce, or others must continually cross their breeds of sheep to maintain the character desired, and in spite of climate. The alternative may be tried, but it is impossible to grow profitably what the climate does not favour; and perhaps a wider market can be found for clothing wools.

The Americans are the most likely people to become buyers of any Australian wool, and particularly of fine clothing wools; for they prefer broadcloth. They are already large buyers in London, and a direct trade has been opened between Boston and colonial ports; several cargoes have gone, and American buyers have found their way to Melbourne and Sydney. This trade will likely continue and increase. For America, or any country which has to house its animals throughout a long winter, feed-

ing them upon stored food, cannot grow wool so cheaply as a climate like Australia, where the sheep has the driest air and no winter. All the eastern slopes of America have severe winters—none so severe as the inland states—and they are consequently thus again more devoted to the growth of grain and crops sown and reaped in the course of seasons. The Pacific slopes have a climate very like Australia; dry, temperate, and, in the low and southern country, mild and winterless; they need not shelter stock, and they have large herds and flocks. But California is not a wool country. The reason is not plain, but the fact is, that sheep cannot grow a fleece for twelve months—it must be shorn in six months, or it will fall off; so the States do not promise to grow their own wool.

Although Australia is a wool country, it is now joining California and New Zealand in the export of wheat. The surplus grain of the Pacific settlements is increasing enormously every year, and it is difficult to see what markets they will find. Before railways came to remove crops, in good seasons these crops have been left unreaped in many districts of new countries; they had no value whatever from their abundance. And it seems that, by collecting these crops, the railways have so increased production, that in a few years the farmers will be no better off; the ports will be full of grain; the shipping may benefit and the people whose crops fail, but the growers of these enormous crops will not be very much the better. These Pacific settlements have exported to Europe nearly 1,000,000 tons of wheat in 1873, principally from California, and another good season may increase this surplus 50 per cent, until in a few years there will be a perfect glut of wheat. The

most favourable hope is, that as meat is becoming so dear in England, her farmers may find meat-raising more profitable, and may leave the grain market more open to importations.

The export of coal is only commencing, large as the figures are already. The port of Newcastle is never without a fleet of Indian shipping waiting for loading, and the demand is only limited by the labour required for production. The effect of this article on commerce, by its quality and cheapness, is marked in the quantity of effective steam shipping used upon the coasts; and it is no small inducement to mail contractors for these colonies. But these are as nothing to the future development of trade which will be wrought out; and it is to Coal, and not to Protection, that we must look for the safe establishment of colonial manufacture. The iron for machinery is there, the coal to forge it, and raw material to manufacture; only labour is wanted. Time will bring this; and if the energies of the country are not misdirected or greatly impaired, fleets of shipping and cargoes of manufacture should some day come out of these ports which will compete with the world.

The financial part of commerce is one of the most generally successful in the colonies; few investments have paid better than the banks, and they have been very free of failures as yet. It is not an extraordinary event in Sydney and Melbourne for a bank to make a profit of twenty per cent in the year's work, and more has been made; while any dividend less than ten per cent per annum is not considered satisfactory; yet there has been no failure for many years The system is Scotch—joint-stock banks

of a large proprietary and unlimited individual liability. All the deposits left with a bank will be paid as long as any one of the hundreds of partners has a penny; they all issue paper — there is no government bank having privileges—and the issue is limited by the metals held. A board of directors practically conducts every transaction, and weekly returns of their assets and liabilities are published in the gazettes. The rates of interest are necessarily high in a new country, if it is at all prosperous, frequently about double those at home—but never more than twelve per cent in a bank; still the profits cannot come from high rates, for much higher—as much as thirty or forty per cent—are frequently paid in America, and yet these banks do not make as much profit. Colonial success is probably from doing a safer business. Still, they often exceed their legitimate trade, and aggravate commercial calamities. In good times, as money comes in to their customers, the deposits increase; then they offer freely to lend. In such times a brisk trade and successful industry are stimulated by success, and the people soon eagerly accept such an offer. Schemes are backed, and heavy investments made, by the banks; but the mere soundness of these schemes cannot refund the loans when they are required. For although all loans are nominally upon bills, they are often advances upon mortgages; and when those involve a large amount of property, and a crisis demands money from the banks to carry on every-day business, then all this property is found to be open for sale, and consequently inordinately depreciated in value.

In squatting, for instance, and it is the principal sink of a bank's funds, this system is too general. When wool

is high, all trade is brisk, and the banks full and eager to lend. Then squatters wish to extend operations; they are sanguine, and borrow. The banks lend money, not to him, but to a merchant who backs the squatter's bill; they charge the highest current interest, as it is for a long date; but they do not practically lend to the merchant, for, in addition to his name, they take a mortgage upon the squatter's property. Then wool falls, trade declines, credit is asked, money becomes dear, and the banks require all their funds; next, their accounts are in danger —they must carry them on or lose all; and so on, until it becomes a commercial dead-lock, and each has to forbear, for the property mortgaged is so extensive that it cannot be sold, and nothing can be done until wool rises. The squatter has the worst of it; for in the dilemma either bank or merchant can come upon him, and sell or seize his property for his debt, or for a future rise. His debt is by this time far beyond any amount lent; for he paid first the bank's discount, say ten per cent; next the merchant for his indorsement, say five per cent; next, a commission possibly, besides giving the merchant the sale of his wool and the purchase of his stores at the highest charges for commissions. The bank will only lend to the merchant, because he is known and can be looked after; they depend upon him to watch the squatter; but the bank locks up too much money for long periods in this way. It is quite beyond the ordinary discount business of commerce, and accelerates financial difficulties when any check occurs. The merchant has the best of it; few merchants are sacrificed if the banks can possibly carry on accounts; but many merchants become large owners of squatting

property in bad times, and the squatter goes to the wall. Then the station is held until wool rises, property all good, when a sale may be made to a man of moderate capital; he borrows to carry on, wool falls, and so on. It does not pay to borrow money for squatting, nor yet is the system likely to mend; for the banks are nearly all colonial property, under the management of local directors, that is of merchants, and they have carried on this system since squatting began. But it is noticeable that those banks which confine their business to discounting trade bills for short dates, as much as possible, have on the whole more success than those which make investments upon mortgage.

CHAPTER XIV.

Local questions—Divisions into colonies—South and Western Australia—Exploration—Victoria—Protection—New South Wales—Free selection—Queensland—Occupation and land system.

THESE colonies have received their separate and independent governments on account of remoteness, or their misgovernment from old centres and their commercial severance. Isolated settlements like the colonies of Western or South Australia must manage their own affairs from the first, however small the community may be, or be governed by an imperial deputy; they cannot be well cared for by a distant colonial government. But offshoots of older colonies, as Victoria and Queensland are of New South Wales, obtain their separation and independent government from a commercial severance, or from misgovernment on the one side and discontent on the other, or from both causes. The earlier settlements were made by imperial governments upon different parts of the coast, independent of each other, holding direct communication with home upon every question; but the later colonies came into existence as political bodies by becoming the excessive or unmanageable increase of those settlements. New South Wales, the first and most successful settlement, has given off two settlements, Victoria and Queensland; the first more from commercial severance and misgovern-

ment than from that distance and difficulty of management which brought about the separation of its northern portion. Future independence will be attained by communities in the same way, under similar circumstances; but in future divisions to the northward other considerations will come in. The climate will not only compel a quite different produce and form of settlement, but possibly, to a great extent, a different people; and if labour is other, so will the laws to meet its introduction and control be other than those of the south. As yet, however, the settlements have all been in temperate latitudes; they can all more or less grow wheat and wine, and do not require tropical labour; and it has only been from commercial severance and misgovernment that these separations have arisen.

Victoria was at first the offshoot of Tasmania, to some extent, as well as of New South Wales, and the pioneers, finding the field wide and rich, induced a large immigration of both capital and labour from New South Wales. This settlement was, of course, made overland; and although the coast was more than usually rich and closely settled, with a port only six hundred miles from Sydney, yet this settlement achieved a commercial independence when very young, and from this led up to a political severance. In those days Sydney was not the rich commercial centre she now is; she did not command capital nor shipping as now; she was only entering upon that era, and under the disadvantages of bad communication. For in those days neither telegraph nor steam enabled a distant city to command and control trade as now. Sydney had little shipping, and less money to spare; so

that settlers who left for Victoria or any other settlement took their fortunes in their own hands. Sydney could do little for them. To this independence, which was soon shown in direct shipment and trade with London, were added the difficulty of government from a distant seat, tardy justice, and those slights and neglects which lead to discontent. The settlers of Port Phillip thus demanded and obtained a separate government, and the colony called Victoria was declared quite independent of New South Wales.

The parent colony again gradually spread northward, and from a small penal establishment she formed in Moreton Bay again northward, until the settlement extended as far as the tropic, a thousand miles from Sydney. This occupation was almost entirely for grazing; only very small portions of the more southern seaboard were taken up for agriculture, or any other industry but squatting, and even then left large areas as quite useless and unfit for grazing. All this large seaboard was occupied, but little more; it produced but very little; it prospered and advanced but slowly compared to Victoria, and commercially was quite dependent upon Sydney. All its produce was grown by Sydney capital, collected by Sydney shipping, and passed into market as Sydney property; all commercial transactions centred in Sydney; and if the commerce of the country could be managed there, why not the government? But there is a great difference between public and private business; the latter was easily done in Sydney, and no complaints were made to the capitalists, but public business was not so well managed, and always open to censure. This neglect of distant interests by a government is aggravated by any benefits conferred upon

more central districts; and the taxation being the same on all, an injustice more galling than hurtful is felt, and a desire for political independence arises. In this way Queensland obtained separation. She did not, like Victoria, emancipate herself from Sydney capital, and sell her produce herself in London; all that was in the hands of Sydney; but she had so widely scattered a population, so little influence in the remote legislation, so far to go for legal redress and public business, that it was found advisable to relieve New South Wales of the difficulty, and let her northern districts manage their own affairs under the name of Queensland.

In all these severances the separation is complete. The parent colony has no control whatever over her offspring; New South Wales has no more influence in the politics of Victoria, except commercially, than in those of any other country. Each colony levies any taxes, collects any duties she pleases; each makes her own land laws, and invites any class of immigrants, without consulting another; they open up mail and telegraph services independent of, and in opposition to, each other; and they correspond direct with the Colonial Office, each for herself, independent of, and often in opposition to, each other.

All the present Australian colonies are, however, of one class; they are all in temperate climates, of the one general class of productions and population, so they are similar in all their manners, institutions, and laws. They all try more or less to grow wheat; they all want European immigrants principally; they have thus the same aims and customs, and they all copy pretty closely the laws and changes at home. Similar in habits and thoughts,

and identical in people, there are still local divergences within the general uniformity which give each colony a contrast to the others, and show its peculiar political bent and aim in legislation. Each has some leading problem and difficulty peculiar to itself, distinct from its neighbours.

The colonies of Western and South Australia wish more room for settlement, more area. Victoria desires to promote the industry and production of the area and labour she has. New South Wales and Queensland both wish more labour, and the latter requires some of that labour to be tropical. The two first are in the position of fully-stocked runs; they can do no more with their present natural resources, and are looking out for more country. Western Australia is principally a pastoral settlement, because neither the climate nor soils leave much room for agriculture; only a narrow seaboard invites any settlement. For the overpowering aridity of the interior is at their door, with few rich soils to give a partial countercheck to the sterility of the climate. Short watercourses head from a desert of hard-featured sand and clay table-lands, where the uncertain drainage leaves only swamps or saline lakes in certain seasons, and drain towards the coast tracts of broken or poor granite country. South, the coast is the most repulsive desert; inland, it is impenetrable; and the only hope is north and north-westward. In this direction there is still room between the West Australian settlements and those upon the northern territory of the colony of South Australia, in the sugar and cotton lands of the coast, and possibly in coal-fields.

The colony of South Australia assists in this or any

attempt to open up the interior and find new pastures. There is not much hope of anything but the same desert in this as in the rest of the great interior. Any system of drainage must find its outlet by evaporation; we have no reason to expect to find any mountains, without which there can be no hope of rainfalls or regular seasons; but there is a tract unexplored here, and these two colonies are again attempting to get it examined. South Australia has for long been searching for more country fit for occupation, and has been of all the colonies the most enterprising and successful in exploring and settling the interior. Next, if not equal to Leichardt and Mitchell, the explorers of South Australia will long be remembered as men of daring and perseverance, who eagerly encountered any danger and hardship under the faintest hope, and, missing success, again and again faced the inscrutable desert, in droughts and in floods, until they made a road and built a telegraph in spite of nature. The colony had recently stretched far inland, when, under the stimulus of unprecedented success, squatters ventured beyond all former bounds; flocks and herds went hundreds of miles into the interior. As shallow lakes were filled by rare rains, they were occupied as if permanent; then the wet were followed by dry seasons, the pioneers were driven back in retreat or pushed farther out in desperation, but all left behind them heavy sacrifices to the implacable climate; and again the colony required more room. Not only squatters, but the whole community had capital and labour idle. Mines were giving in, wheat lands being wrought out; the population were emigrating to the gold-fields of Victoria and Queensland and to the rich farming districts of New South Wales.

So their policy became to find new fields, and they held in their interior an immense field to survey.

Failing the discovery of any land, possibly productive, in the interior, their idea was to open a route straight across the continent to the nearest point to Eastern commerce, and from that to open a trade in horses to India. They believed that it would be at least possible, however much desert there might be, to drive horses overland, and then ship them profitably; and they hoped that, as a route was opened, the interior might become partially settled, and a great trade be established in this one stock alone. Years and indomitable energy were spent in searching for such a route, and if success at any time seemed imminent, a settlement was at once formed by sea upon the northern coast, as a north base of exploration, and as the foundation of a new colony. But as seasons varied, the routes passable varied; they terminated at different points of the coast; they were only of use to well-equipped explorers, not for stock or any other overland travel; and port after port was found unsuitable. The scheme was baffled and delayed, but never laid aside. The experience of fifty years of exploration in the interior was backed by the public resources and by private generosity; what horses could not accomplish, camels were imported and bred for; rewards were offered to explorers and overlanders, and the goodwill and wishes of the whole community backed each reviving enterprise. As one expedition after another was baffled and driven back by stony desert or sandy waste, or the ever-recurring drought, again the attempt was made from the last point gained, and by striking east or west, to pass the obstacle another stage farther

north was gained. At length no part of that interior has been left unexplored; good or bad, all the country within the boundary, and due north of the present settlements of South Australia, has been surveyed; and the possibility of traversing or occupying any of it with stock pretty well ascertained. At the same time the northern coast has been more accurately surveyed, and its harbours better examined; by which, after several failures, a good harbour has been found and a successful settlement made at Port Darwin.

This energetic action of South Australia was very much stimulated by a desire to secure telegraphic communication with the rest of the world before her neighbours. Queensland lines were rapidly stretching along the north coast, and unless South Australia could intercept the cable as it was landed upon the extreme northern point, she would lose what she believed to be a commanding position in the whole system of telegraphs and of news. She therefore declined to coöperate with any colony in making an overland line, and pushed one direct across central Australia through all difficulty. Besides establishing a prestige and a commercial advantage in priority of news, she probably felt that the success of her northern settlement very much depended upon such rapid communication and control over the route as only a telegraph could provide; indeed, until she made this line it cannot be said that any direct overland route existed. Without this line the route would exist only upon the charts of explorers; there would be no resting points nor means of communication along it, and the terminus would be an insignificant station upon the coast, supported for political or naval purposes, like

that at Cape York. But although a hamlet of two years' growth, Port Darwin has daily news from all Europe, Asia, and America, and hourly communication with its government.

The telegraph has thus become a pioneer of settlement, and done good service both at Port Darwin and at the Ethridge; but we may look for greater indirect service by it enabling us to obtain full and regular meteorological reports. These have come quite lately into general circulation in Australia; formerly they were only made by certain officials in certain important stations upon the coasts, now nearly every telegraph station sends a daily note of the weather, and with a little care in compilation these will be of the utmost value—particularly that line across the interior, for by its reports we may form some idea of the probable seasons. If the interior has any influence upon the climate, we may expect a dry interior to aggravate dry seasons with droughts, and a flooded central depression to increase rainfalls to floods. The telegraph is the result of South Australian energy in the way of exploration. Western Australia has also done much towards our knowledge of the country; Queensland has done a great deal; and both these with practical ends in view. But Victoria sent out the best equipped and most unfortunate expedition, more for the good of her neighbours and a disinterested love of science than for any private views; New South Wales has done nothing since she lost Leichardt.

Victoria has not so thoroughly employed all her natural resources as her neighbours; she has still some wheat land to work, mines to open, and even grazing to develop.

But she is more engaged upon what she has on hand than thinking of more room; she has no unoccupied territory to tempt exploring enterprise, no population leaving her, no difficulty in finding investment for both capital and labour. Then, again, her population is quite different; she has a small proportion of the pastoral and agricultural classes which predominate in South Australia, and a large number of more actively industrious and more energetic miners and artisans. They were the same at first, and under similar climates; but a difference of pursuits and habits may have given the Victorian population more industrial tastes, and probably greater mental activity. Even a fertile soil will not of itself, in any climate, lead to a people becoming energetic or even prosperous; but when a mining industry keeps their energies upon the stretch, and success encourages new undertakings, it is more probable a people will become intelligent, eager, and active, more probable they will push their way through difficulties; and it is easier to increase a manufacturing than an agricultural industry.

As population became collected and towns sprang up, by the combinations of labour it became possible to supply many wants which were formerly met by importing the articles, and one success led to another attempt. But the establishment of a new industry is a costly experiment, which takes considerable determination to embark upon, and great perseverance to continue. This is more the case with a manufacture in a new country where labour is scarce, while the article to be made can be so easily imported, and while so many oppose with argument and ridicule any innovation. The first step once taken, how-

ever, the difficulty is to draw back, and as the undertaking is carried on this difficulty increases. Calculations, however sound at first, may fail if the data or anticipations change, as they always more or less do; but when the danger is imminent, attention is called to the whole question. When, too, several similar schemes are about to fail, having acquired 'vested interests;' when they are all formed upon tolerable calculations, to supply an undoubted want; when they are to teach the younger the work of older states, their own the work of other people; when they appeal to the spirit of independence in a vigorous but ill-informed people—then that people is sure to sympathise with them. So it was with the industrial interests of Victoria. They appealed to the people, and the people supported them with a protective tariff.

Other and baser motives than sympathy assisted in this result, but that feeling underlay it in all probability. These industries formed combinations with political parties where they threatened to fail of themselves; and, at the same time, they used their own arguments with the people. They said, 'We not only supply you with what you require, but we employ your labour to make it,' which was a telling argument, while the importer only benefits by his trade. The people in Victoria, under manhood suffrage, make the laws, and such a constituency does not reason so much as feel; it is quick but unthinking in its action. If the people had been asked individually if they would pay more for any article made in Victoria than for an imported substitute, they would have at once declined; but as the general proposition was made, that more should be paid, they practically accepted it, without tracing out

who was to pay this enhanced price. They preferred to pay manufacturers a subsidy because they were promised work, without reflecting that their own wages went to this subsidy in the form of excessive prices, and that they were possibly supporting a scheme which might never become independent. Native industry and plenty of work were too attractive cries.

The manufacturers joined with most producers, and took every advantage in the way of 'log rolling' to get this support to their businesses, but they were strongly opposed by the most of the better classes. The latter generally understood the nature of the question, and resisted undue interference with legitimate trade; but the mercantile classes resisted it from motives as personal as those of the manufacturers and producers. The importers opposed anything which might curtail their trade, and it may be said most of Melbourne are importers. The conflict was between numbers and intelligence with right, and the latter had the support of almost every newspaper in the country. Yet the numbers gained. This is an instance of how the press cannot guide popular opinion; never were its utterances more clear and unanimous, but they were beaten. The law of protection is the law of Victoria. They protect all articles manufactured and grown; articles of luxury, of necessity, and of absolute sustenance; everything they can, or rather everything they attempt, to produce. There is one exception, that is meat; they protect grain, but not meat; for meat is grown by an upper class, and they did not legislate for any but themselves. Squatters are the only producers not protected; everything else than meat, including articles quite beyond their means of

producing, such as scientific instruments, are under strong protection.

Many important questions have from time to time engaged public attention in Victoria, mining and land laws particularly, but protection is the most striking feature in their present law. The land laws are still the great question in New South Wales and Queensland; the former is still trying to promote agriculture, and the latter is only pausing in the first pastoral occupation of her territory; both are frequently debating their land laws, and New South Wales is most dissatisfied with her results. While Victoria obtained larger population, she tried to settle them upon the land, and partially succeeded; but the same amount of settlement would not have the same result in New South Wales, for her territory is so immense and her resources so varied, that they could only occupy detached corners in the wilderness, and make no real progress in settlement or production. And as New South Wales has not obtained even that small number of farmers, and they are scattered by her land system all over the territory, often without roads or access to market, the result is very unsatisfactory.

The opposition of the squatters to the old dictatorial interferences of governors was the first cause of a class warfare; they long ruled the land, and they resented particularly any new schemes about it, taking generally a firm stand against all innovations in land laws. But a small landed class arose, who desired to establish a class of independent farmers, and gradually an agricultural population. This class were owners of large holdings of land, who could do nothing with their property, as the

gold-mines took every man away. They did not altogether like the squatters: 'The squatters,' they said, 'come here to make money and go away—we came to settle.' It may be questioned if the man who makes most money does not do more for the country than any other; he certainly does more than he who spends most. But this was not their view, and they were supported in their wish to get a class they called 'yeomanry' by a democratic or popular tendency to oppose the squatters as an upper class. As the increase of population increased the popular element, and as decreasing gold gave more time for politics, a general movement set in against the squatter—to get land somehow—but at any rate to oppose the squatter. He was represented as a monopolist of land, and if this were only taken out of his hands it could not fail to enrich all the less fortunate, to support all the idle. It was also urged that the country could not be permanently settled without agriculture—first, a large rural population, then mining will follow, and manufacture in due time.

This idea of agriculture necessarily preceding other industries, and another, that pastoral occupation precedes agriculture, are still common; and yet neither will compare with modern facts. Pastoral occupation is only a last resource now; in ancient times a pastoral age came first, and shepherds had always to make way for tillers of the ground. The land question is very old; it has been suggested that Cain and Abel fell out about it. But a colony is not a nomadic exodus, and no settlement has been made in modern times for pastoral purposes; Pennsylvania nor Cape Colony, nor any other, was undertaken except for agriculture in the first instance, and New South Wales

was no exception. But it was very soon found in this colony that the climate was most hostile to agriculture, while flocks and herds increased amazingly. Agriculture was encouraged and enforced in the early penal settlement, and yet it was such a failure that governors admitted the difficulty, and made stores to save the good crops for a possible famine; those immense granaries are in Sydney yet. And although there was no commerce to supply the deficiency in those days, there was a remarkably small number in all to support, and they were nearly all prisoners under the most despotic rule—to grow wheat or do whatever the governors wished. But while crops failed, the live-stock increased, without trouble or public attention. Agriculture actually preceded grazing here, as elsewhere, and the latter only asserted its claims by natural laws. There is therefore no justice in the proposition that grazing should now invariably give place to agriculture; but this the laws propose.

Nor is it true that any industry must wait till agriculture brings population. Mining has brought far more population to all recent settlements; it peopled Victoria, New Zealand, California, Nevada, and British Columbia; and when that population remains to settle, any other industry is, upon the whole, as attractive as agriculture. The only question is, What pays best? The average immigrant, even if a farm-labourer, does not look to anything but wages, beyond climate; if farming is most profitable he will take to it; or if mining, he will mine; and any new industry can command immigration as well as land —there is no special charm in cheap land. But this the laws take for granted. They offered land at what was

generally considered a low price, and they advertised it by immigration agents, without obtaining much agricultural labour; for population came and went with the gold, and were as ready to go to any other colony as to settle; only gold or high wages made settlements. Then it was proposed to make another bid for population, and to let the immigrant select any land for himself. Formerly the land was sold in all colonies after survey, but now it was thrown open to selection before survey. This was opposed by all who had any stake in the land; by freeholders, because it would scatter population; by leaseholders, because it was an attack upon their property; but democracy carried it, as they thought the interests of the richer class must be contrary to theirs. No body of the people really wished to go to outside places to farm, and the laws discouraged grazing; but as a popular movement against property it was successful. All runs were open to selection, and an immense amount of property depreciated in value; the capital and labour of the community were wasted in fruitless experiments; the people were scattered beyond the reach of education; and production made very little progress. Selectors soon found they could not live by agriculture, and the law had to grant them grazing rights. Since then they have done better; the grazing generally carries on the agriculture, and failing some such support, this scattered form of cultivation can rarely be continued. And when the grazing right is relied upon, and agriculture absolutely abandoned for sheep-farming, the selector becomes the most prosperous of his class; quite contrary to the purpose of the law.

The settlement of Queensland has been pastoral until

recently, when special inducements were offered to sugar growers; and both these land laws were successful. One mistake was made by Queensland, however, the same mistake as her neighbour made—she bid for the agricultural labourer specially. The first occupation of her waste lands was by squatters, who were invited, under a system of free selection, to take any lands they pleased, and areas were leased according to the quantity of stock they first occupied the land with. This free selection was successful, for the squatter does not depend upon seasons so absolutely as a cultivator; droughts will come and warn him before they ruin him, and he has both capital and education to assist him in tempting new climates. But no one knows better than a squatter what a mere experiment the first occupation of a country is, and how frequently the most established rules have to be set aside. A new country always disappoints its pioneers, and the second settlers generally build successfully upon the mistakes of the first. These facts were equally well known to the squatters of the southern colonies, and they did not recommend the population to indulge in experimental farming all over the colonies; but the lower class elected to do so, and they were the majority. In Queensland this class is not a majority, for their franchise is not so very low, but like that of a 10*l.* householder; so the government of that colony is in the hands of a more enlightened body, or they also would have had free selection, and unfortunate immigrants would now be trying to grow wheat in Carpentaria. This colony is not, however, free from 'dummyism,' and much of their only wheat lands have been secured by capitalists under this system, as

lands open to selection after survey; but not nearly so extensively as in the more democratic southern settlements.

The democratic element made an attack here also upon squatters as land monopolists, and under this party measures were taken to introduce an agricultural population for bonâ-fide settlement. Agents were employed to canvass the colony at home; it was represented as the only Paradise—'a land flowing with milk and honey,' one agent said—and every man who would come was offered eighteen acres of land. Many did come, and as soon as they landed—they did not settle—they sold their land orders, and went off to the southern colonies, or wherever there was most gold or most employment. This attempt has not been repeated, but large areas of land are always open to selection after survey. Although Queensland has always, with one small break, been under the government of the squatters, no colony has been so successful with her lands, not even South Australia. This is a complete answer to any objections to the better class governing, although it only proves that squatters know the interests too well not to forward the colony. They settled the Crown lands' occupation, which they got in some years' arrear from Sydney at separation, simply by abolishing the old system of tender, and giving the first occupier a lease; they have given all wheat-growers land, upon which they average higher crops than in any other colony; they have established cotton, increased annually the whole crops by larger ratios than any other colony; and they have raised sugar to be their second industry, until it now meets all their own consumption, and will be a rich yearly export. And,

at the same time, they have recognised a fact, or a law of nature, which their southern neighbour will not admit—that certain portions of the interior are only fit for grazing, but capable of improvement for grazing if capital can be invested; and that the only base for such an investment is cheap freeholds of areas large enough for sheep-farms.

CHAPTER XV.

Divisions of territory—Position of Riverina—Petitions for separation—Northern Queensland—Removal of the grounds of complaint—Natural division of north from south—Future separations—Confederation.

PETITIONS for separation from their governments, and establishment into independent colonies, are very frequently sent by districts to the Colonial Office. Many reasons are assigned by them for this, all based upon discontent and generally upon misgovernment, arising in Australia from distance, from their being so far from, or so much disconnected with, their political capitals. But to define the district which can be well governed from one point, the nature of the country and climate is, or ought to be, the first consideration. For this continent is not as most others; there is not probably room for inland states. The country is not all alike productive, but much more so towards the seaboard, and less inland, until the interior is practically unfit for any settlement. Rain, and regularity of rain, govern the productive power of the land, and this the capability of the land to carry population. Again, the mountains, with their minerals and all the valuable carboniferous formations, are in the coast districts; therefore, again, production and population will be more centered upon the present settlements near the

sea. Railways recognise this; they go inland from the ports, collecting produce to, and distributing importations from, the commercial capitals; they do not pass along from one inland town to another as much as centre all business in the shipping ports, which are connected by steamers.

Hence the principal shipping ports become commercial capitals, which, in all matters of business, rule large inland districts; and as capital accumulates at these ports, they command smaller ports, and their newer settlements. Produce and population decrease in extreme ratios towards the interior; one-third of the whole population is within a few miles of the sea, fully one-third upon the great watersheds which are always within 200 miles of the sea, and a small fraction scattered in decreasing numbers towards the interior plains. It is natural, under these circumstances, that the principal ports, as the commercial capitals, should become the political capitals also. For if the ordinary business of the community can be managed in this way, the public affairs might also—there are no wide political considerations, as naval or military strategy, worth taking into account in a remote field of settlement so isolated as Australia. So it would appear that the government of any portion of the country might be managed from its commercial capital, or if this neglected a district, from the nearest mercantile centre, the port of that district; and that the natural divisions of colonies would be lines running at right angles from the coast, giving each portion of seaboard a proportion of the poorer interior which commercially depended upon it.

The divisions into colonies have not, however, been

made according to this apparently natural principle, but perhaps rather hastily in the case of Victoria, in answer to a petition claiming that a certain district was quite large and rich enough to form a separate colony. Victoria, in its severance from New South Wales, was limited to a corner of the south-eastern seaboard, including nothing of the interior, which still remained under New South Wales and South Australia. A change now would be most inconvenient, if not impossible, and most likely cause more trouble than it would repay; yet this inland district is placed in an anomalous position. At the back of Victoria a large tract of wool country centres its trade upon the frontier, and does all its commercial business in Melbourne, while it is a part of New South Wales, and does all its political business in Sydney. Some of this country is much nearer Melbourne in the first instance, and a much larger area is drained by the inland navigation directly to Victoria, passing through the interior of most of New South Wales without approaching Sydney; and although Sydney may make railways far inland, she cannot interrupt this trade nor divert it from its natural channels. Victorian railways meet the navigable water, and offer the shortest route to market. Riverina has thus its nearest market in Melbourne, and its political capital is Sydney.

All the wool grown in this district, and almost all the stock fattened—and it is the most productive of all the grazing lands of Australia—find their market in Melbourne; all importations are purchased in Melbourne, transactions in live-stock and squatting property are done in Melbourne, and her merchants are principally interested

in Riverina. The squatter buys and sells in Melbourne; it is his nearest port, can supply him with capital, is the one natural outlet for all his produce, and commercially the capital of Riverina. But if the Riverine settler requires legal redress in any form, if he requires to do business directly with any department of government—and as a Crown tenant he has much to do with the lands department—or if he wishes to obtain legislation for his district, he must go to more remote Sydney. He has no particular inclination to go so far, as he does business with Melbourne, and his legal or political business is of that apparently unremunerative nature that he only goes so far through necessity; so he does not like the necessity—he does not bear well the political ascendency of Sydney. Riverina may be defined as that part of New South Wales which does its trade principally by the navigable waters of the Darling system; extending from the Victorian frontier north to Queensland and west of a line parallel to the east coast, about 300 miles inland, as far as New South Wales settlement extends.

Riverina is purely a grazing country. It has very small and irregular rainfalls, a very flat badly-drained country, no mountain whatever, only immense plains and saline flats, dry air and rich pasture. This squatting country is naturally little troubled by free selection, but it is nevertheless dissatisfied by having to look to Sydney for its government. Sydney does nothing almost for it, and draws a large revenue from its tenants; whereas Melbourne makes railways to meet its rivers, finds steamboats for their navigation, does everything to push the district and develop its production. Sydney

made great difficulty in opening up the navigation of these rivers by clearing channels, does not push telegraphs very freely, and has no railway approaching their trade—having lost that trade she is not interested in it. But Melbourne would be glad to do anything for it; she would make railways and telegraphs freely, and would be only too glad to have Riverina annexed to her territory. This, however, the squatters do not so much desire. Victoria is very democratic, their legislation is not always of the wisest, nor altogether guided by reason; possibly a popular measure might ruin them by way of opening up the country, the runs might be cut up to establish agriculture by irrigation, or some such scheme, and Riverina ruined. Riverina does not like Sydney, but she fears Melbourne as a political capital. She is the land of squatters, and would like to remain so; she would like to be clear of other neighbouring interests, clear of political crotchets and democratic influence, and manage her own affairs herself; hence Riverina has petitioned for separation, and although the matter now rests, apparently passed and gone, the feeling is the same, and may express itself again. It is unfortunate, taking a general view of the country, that this district was not added to Victoria when that colony was formed into a separate government, for it is merely the back country of Victoria; but now the difficulty of making this change is too great to be encountered, and would by no means give general satisfaction to the settlers; while it is too poor a tract, and in the hands of too few capitalists, to promise well under a government of its own.

This district is singular in its anomalous position; no

other looks entirely to one city for its commerce, and another more distant for its government; the political capital is the nearer if these are two distinct. But many more petitions for separation have been sent home. The grounds of these are principally based upon their being far from their seat of government, and consequently neglected. As a colony extends, the new districts get beyond the knowledge of the rest, and the faster the extension the more neglected they become. Their progress is not credited perhaps, certainly not altogether relied upon; they are treated as partly experimental, and they have justified this view in many instances by being afterwards abandoned. As they spread, their representation becomes proportionately less in parliament, their management neglected by government, their wants and wishes unknown, until they become quite dissatisfied. They complain, but have not the power of making their grievances understood; they have not representation equal to their numbers and importance. Then they petition for a separate government. Their taxes, they say, are spent upon more central districts; they are merely burdened by duties and land rents, without receiving any adequate outlay for their advancement; they want roads and telegraphs, railways, wharves, lighthouses, &c. Their contributions to the public revenue entitle them to some of those public works, but these are only made for the more central districts; the seat of government is lavish in local expenditure, but ignores outside districts; and they have not that fair share of representation in parliament which could alone obtain them redress. Such is a petition for separation.

Such a complaint was made by the northern portion of Queensland not many years after that colony was formed independent of New South Wales. At that division of the old colony, the capital of the new was fixed at the most important port, which necessarily was at the most southern or oldest-settled portion of the colony; and as settlement extended northward this port became remote from most of the colony, and took less and less interest in the new districts. This indifference was much aggravated in the case of Brisbane, as it never was a commercial capital; it had no pecuniary interest in the north. Sydney was always the one commercial capital of Queensland; so much so that trade passed down the coast direct to her, without going through Brisbane at all. The settlement of northern Queensland was so wonderfully rapid too, that it was impossible for government to keep up with it in administrative work, for every few months added and extended population over wide areas; therefore the new districts inevitably became neglected. This new country too had a commercial centre in Rockhampton, which without any money to back it, merely as a feeder to Sydney trade, completely cut out Brisbane as having any interest in the north; Rockhampton became the port of northern Queensland, the centre of its trade and population.

As this northern capital grew so rapidly, it began to compare its prospects with Brisbane, and far from looking to it as the capital of Queensland, began to rival all its pretensions, therefore to watch jealously all the expenditure a government must make in a capital. Rockhampton saw Brisbane increase to three times its former size upon its being made a seat of government, and this not by the

increased production of the country, but by the collection of population incidental to the establishment of a seat of government, with its law courts, civil service, &c., while Rockhampton was increasing still more rapidly by production and export. Then the southern districts, of which Brisbane was the port, obtained all government loans exclusively to make roads, railways, and public buildings, while the north had no made roads, with insufficient mail services and courts of justice. Brisbane had far greater local expenditure than the amount of all her contributions to the public revenues, and Rockhampton infinitely less. But the representatives of this rapidly-growing north were few and insufficient, an additional member was most grudgingly given, and their voice was quite impotent in the legislature, so redress impossible. Under these circumstances petitions for separation were signed and sent in by the north, against all wish of the southern districts.

The first discontent was for a time overcome by a small concession to Rockhampton of a few miles of railway. This beginning seemed the promise of more local expenditure, and encouraged the north to hope for redress, but only for a time. The railway was discontinued after it had been made a few miles; this small portion was too short to be of any use to trade, it was little more than an amusement to towns-people, and could not pay its expenses; so the petitions were revived with greater vigour. After setting forth all their grievances from neglect, misgovernment, misappropriation of public funds, and the political injustice of their position, the petitioners proceeded to state their ability to govern themselves, and their resources. They proposed to divide north from

south Queensland about the 25th parallel, which they represented as a natural boundary; they considered the southern portion would then be quite large enough to bear all the expenses of the present government, and they were quite willing to bear their own charges; their population was sufficient and increasing; and they despaired of ever being properly governed under the present system, which gave undue influence to the south.

Then a counter-petition was sent in by a large number of the settlers still farther north. Rockhampton had represented herself as the capital of the north, and she undoubtedly is the first commercial centre; but no sooner had she desired to become the political capital than the more remote districts of her proposed colony anticipated similar injustices from her hand by desiring not to be incorporated in the same colony as the new, but to be portion of a more northern colony; to be themselves the centre rather than the outskirts of a colony. This came from Bowen, which is about as far north of Rockhampton as Rockhampton is from Brisbane; and if the first petition had been granted, certainly Northern Queensland would have been in precisely the same position to begin with as the present colony was; she would have had her capital in the extreme southern corner of her territory, with most population and influence centred there, in a different climate, and engaged in different pursuits from her northern districts. She might have behaved better to her outside country than Brisbane did to hers; but there is no reason to expect any departure in her case from the rule; for she has no capital to give her an interest in the productions of the north, little enough for her own local business; she has

no shipping to secure that trade, not even a good port for foreign export; she has nothing to gain directly, as Sydney has, in these remote settlements, and would almost be sure to prefer the expenditure of public money in her own than in developing the production and increasing the power of the northern districts.

The counter-petition had exactly similar prospective grounds to stand upon as the original complaint of Rockhampton, and somewhat discouraged the idea of separation at all. Then the whole of northern Queensland fell into commercial depression and disaster of a nature too absorbing to leave politics any attention. For years capital had been flowing in for investment; in the haste to secure runs and build up squatting property, more outlay had been incurred than the property was worth. The systems were expensive; it cost more to produce a fleece of wool or a lamb than they were worth; and all this expenditure had stimulated trade, and increased the expenditure beyond normal limits. Then came a pause in investment, doubts of success, a decreased circulation of money, a fall in local prices of produce, stock, labour, and everything. Next came a fall in wool, the one staple by which all lived, and ruin seemed impending. Of this wide extent of country, which from its area alone seemed too large to be managed from Brisbane, many large districts were absolutely abandoned and depopulated again; flocks were boiled down, and herds driven to southern markets; sheep almost disappeared from the most northern settlements, only a few cattle held the country; and it seemed not improbable that northern Queensland, or at least Carpen-

taria, would be abandoned altogether, simply because the settlers could not make a living.

Separation too was not so much desired by the inland settlers, who seldom took any interest in politics, as by the citizens of the towns which proposed to be capitals. They had a strong personal motive to promote the separation; provided their town became a capital it did not much signify to them who would suffer by it; but many settlers of the interior began to demur to the proposal to build government offices and legislative chambers, bridges, waterworks, &c., at Rockhampton, after having just paid their share of those at Brisbane; there was no prospect of a reduced expenditure, and if they could get fair play without incurring the cost of a separate government it would be much more desirable. This view was met too by the government at last; they gave more members of parliament to the north, extended telegraphs and railways, opened new courts, and agreed to a general division of public accounts, keeping northern outlay and expenditure distinct from southern in future.

Besides the heavy expense a separate government would entail upon a small community, there are also general objections to this proposal. One point of this petition was that the 25th parallel of latitude was a natural boundary of two distinct regions; but this only rested upon the fancy of the first explorer who surveyed the country, and who therefore knew little about it. The 25th parallel divides two eastern streams certainly by a bold range, but this range extends only 100 miles inland, and beyond it there is no natural boundary for some degrees farther north. That parallel does not coincide

with watersheds, but leaves in the north waters going south to Riverina, west towards Central and South Australia, besides northern and eastern waters. Nor is there any marked difference of climate or produce. Droughts and floods, tropical heat and frosts, prevail on both sides of this line. The only peculiarity noticeable is that for a few degrees north there is probably less rain, which may arise from the continent trending more to the west of north from this point, and thereby offering less resistance to the south-east trade winds; and as the sea-breezes, which reach the interior by this course, have to pass over high tablelands and ranges, they bring less rain inland here than upon most of the southern interior. Even at the tropic the climate does not become purely tropical; but leaves a belt of country neither one thing nor another, in which either wool and wine, or sugar and cotton, can be equally grown. The two staples of Queensland are wool and sugar, as far as land and climate are concerned, and the 25th parallel does not divide them; such a boundary may be found, however, at the 22d parallel. By this line the finest sugar country in the north is divided from the wool country of the south. For although sugar is grown largely in the south, it is not so easily produced, on account of frequent frosts, as to the north of the 22d, where the production of the other, staple wool, has been almost abandoned. This line divides, with the exception of one inland stream, two of the largest river systems in Australia—those of the Fitzroy on the south and of the Burdekin on the north; and if continued westward it divides all southern from the northern waters, and may be almost taken as the division between South Australia and

her northern territory. It divides sheep country on the south from sugar country on the north. Sheep have been tried upon the Burdekin country in the north, and within five years they were nearly all removed by nature, or were hurried off to the pots and southern markets. The climate will not grow wool profitably north of the 22d parallel, as far as experience has gone; but no climate is so suitable for the sugar-cane, and the interior will carry cattle. Wool is grown south of this line, notwithstanding severe local droughts and light fleeces; but sugar is only grown under difficulty, and frequent doubt of permanent success.

This 22d parallel, then, is the natural division of Queensland, possibly the line between South and North Australia, between temperate and tropical settlements; and such a division implies a marked difference. South we have the climate required by Europeans for a permanent residence; we have the produce they can grow, peculiar to temperate climates, foremost of which is wool, the staple of the country. North we have a tropical region, in which settlers will require frequent change of climate to maintain their energies; in which European labour can do little; in which produce grows which that labour does not understand, and demanding with different settlers another political system and another social character. The old class of immigrant may continue to come to settlements south of this, but tropical labour is required to develop the north; it may be worked by white men breeding cattle and raising minerals, but its sugar lands—and they are the best in Australia—will be comparatively unproductive without the class of immigrants suited to a tropical climate, which are also the cheapest labour. South, a more

intelligent, more civilised and productive labourer will share with capital the produce of the land, demand and receive a voice in the government of the country, and establish a democratic society, with some equality in the distribution of wealth. But in the north crowds of Asiatic or coloured immigrants will willingly work for their sustenance, if the country is ever developed; and capitalists will receive most of the produce, without being asked for any share in public matters. The people will be a few rich and many poor; but these poor, aliens averse to our civilisation, and not permanent subjects; the government will become aristocratic, without the lower orders being discontented. Coloured labour may or may not be introduced by any state south of the 22d parallel; if they do not grow sugar, they can always grow wool, maize, wheat, &c. But the north will do nothing except support a very few cattle breeders, and an exceptionally rich gold-field, unless cheap tropical labour is introduced; and that immigration, with its control, and the customs and character of the immigrants, will bring about quite a different form of society from the democratic southern settlements.

But no separation is desirable if on the other hand the government can be carried on fairly, for distance is not of so much consequence now; it might have been impossible a few years ago to govern satisfactorily a distant district, but steam and telegraphs have changed all that. Distance will not hinder administration of justice or distribution of public services, if they are equably proportioned. If South Australia desires to push her northern territory into the position of a prosperous settlement, she can do so more easily since she made an overland telegraph than

New South Wales could have governed Victoria at the time of their separation. But neglect will always result in discontent, and failing redress from their fellow colonists, the malcontents can only appeal to the Colonial Office; then a petition will deserve much consideration before it is granted. For a district is involved in great expense, and frequently in some inflated and disastrous temporary prosperity, by being started as an independent state. The whole machinery of government has to be built up from the beginning; governor, judges, courts, parliaments, and all the departments of the administration have to be completely formed; and that is never done with success at first out of so much raw material, even with the assistance of one or two trained officials from home. Then the mere expense of building the necessary public offices, assembly houses, courts, and residences of the government, and completing the requirements of the selected capital as a port and a large city, becomes a heavy outlay for a population of 20,000 or 30,000. And once this outlay is commenced in a quiet settlement, a false idea of prosperity is circulated, which too often leads to rash speculation in property and unsteadiness in trade.

This completeness of separation, when it does occur—this necessity to do everything from the beginning, and to undertake the full charge of all their own affairs—is the main objection to separations. If the powers and duties confided to a new state were more limited, they would be more easily compassed by her, her few politicians could more easily manage the public business, and the expense would be much less. If the distant dissatisfied district

were given a municipal or communal government, confined in action to its own territories, still sending representatives to a superior assembly for exterior and general colonial questions, this expense and difficulty in forming a complete government might be saved. A communal council would be as efficient for the assessment and expenditure of all their taxation; except the small proportion each state might owe to a general government, and which might be administered by a federal council. Justice would be cheaper and more expeditious the nearer the courts were, and the interest in public affairs would be more general, and questions more discussed. It is to be regretted now that the extension and division of these settlements were not foreseen from the first, and that the powers granted to each had not been limited to purely local questions, all extraneous matters being left in the hands of a supreme council or senate of representatives of each colony. There is no necessity for each colony carrying on a correspondence with the Colonial Office; for each making toy armies and forts, or purchasing exhibition ironclads, for her own particular defence; for all rivalling, instead of uniting, in systems of mails or telegraphs. But each colony has been started as absolutely distinct and independent of its neighbour as of a foreign state, and now the difficulty will be to bring them together. Among other plans to carry out this independence, they were not permitted, until the other day, to admit each the other's produce into their ports upon more favourable terms than similar foreign goods. Possibly this was intended to teach them the principles of free-trade; but if so, it has failed lamentably; and the first result of federal legislation has

been to get this removed, that a basis of a customs union may be arrived at. It is very difficult to get a federal council formed upon even a few questions, the representatives having complete power delegated to them, that the decisions of the majority may bind the minority; but necessity will compel some joint action, and as one success is appreciated, and another intercolonial dispute settled, the advantage of these federal councils will become so manifest that they will in time be looked upon as necessities.

No interference from home is likely, however, to promote this mutual legislation; it had better work out its own way, and build up its own power; in time it will result in a confederation of these colonies. When that time arrives, it may become a question whether each colony had not better resign some of its duties absolutely into the hands of this confederate senate, as its foreign correspondence, defence, and questions of the separation of future districts. But the limits of this confederation will have to be kept definitely in view in endowing it with power; for settlement will continue to spread over all the Pacific, from New Zealand to New Guinea, and from Fiji eastward and south; so that many strange settlements may in time ask admittance, whose peoples, aims, and characters will be very different from any now existing. As for any severance from Britain; if it were proposed at home it would be taken as a slight by every colonist.

CHAPTER XVI.

General features of politics—Absence of interest and inducements—Ballot—Elections—Parliaments—the ideas they interpret—Protection—Free selection—Intelligence of constituencies—Queensland—Tendency of democracy.

IT has often been remarked that in Australia, as in America, the better classes are very indifferent to politics, and this is true. There was a time when the better class did most of the government of the country, but that has passed away; the squatters then held the land, and managed it as they pleased; but one after another democratic tide drove them back, and since the complete establishment of responsible government, the lower class has practically exercised political power. At first, as the country was being occupied, before it could be called peopled, the majority were pastoral settlers and their servants; this was the business of the capital, and did not admit of much subdivision; it involved a society of a very few masters and a number of servants, and led to an aristocratic system. But as population increased other employments were found, not always requiring capital, upon which rose a class disputing the power of their leaders; and as they were supported by later immigration, the political power became gradually transferred to the lower class—manhood suffrage and vote by ballot became the custom. And the

cause of this decline is more interesting now that many of the same causes are at work at home, and will tend to reduce the public estimation of politics; although the power and privilege of guiding a great historical nation will always be an irresistible lure to ambition, while a history of struggles is the one great want of a new state.

The dispute in which this change occurred was upon land. The dominant class had hitherto held the land almost exclusively, and in spite of various attempts by governors and irresponsible governments, had legislated for this land. This class held the land, the legislation, and the one industry of the country in those days; they also included almost all the intelligence and education of the country; their enemies were few, and to them contemptible. But this contempt spurred on the democratic party; their superior intelligence gave the lower class a distrust of all their propositions; their wealth and powers were envied, and their right to legislate steadily invaded. Every increase of population added to their enemies. They were not only opposed because they wanted to keep nearly all the public land in leases in their own hands, by classes who said they wished to buy land; they were opposed as capital by labour, as aristocrats by democrats. The quarrel was always maintained as upon the land question; but this really includes many other deeper ideas, and was, among other symbols, the colonial type of the great question to-day at home, that of labour against capital; it was also a popular effort to put down any oligarchy, however able, from political power, and not the less ruthlessly because it was able.

But the issue of this struggle was much hastened by

the extreme exercise of the franchise in the colonies. It is true that a working man who emigrates is generally of a more inquiring and active mind than he who stays at home, and it is true that by the fact of emigrating and seeing a new country he becomes more intelligent again. But considering how far he was, a few years ago, removed from political power and knowledge before he left home, he could not possibly be fit to exercise the franchise when he reached the colonies. Whether being conversant with political questions will make an uneducated man intelligent, some may dispute; but none can doubt that a farm labourer from England twenty years ago could not understand a land question; and yet practically his vote, the vote of the increased population, drove almost all the upper class from the field of politics. It has been said that every man in a new country should have a voice in the management of it, but that is a very empty proposition; it may be true if all are equal in a new country, but neither there nor elsewhere were ever any number of men found equal. Equality is not in nature; it is incompatible with civilisation, natural selection, or any progress; and it may as well be said that every man should have a steam-engine. If he understands the use of it, if he can exercise it for the good of the community, he may well be intrusted; and although there will be great dispute as to who shall judge of his ability, yet it may be admitted that he should not have this power until he desires to have it, and that he does not desire it until he asks for it. He got it here, however, before he asked for it. The extension of the franchise in the colonies, if it did not go far beyond the political aspirations of the lower class of colonists,

certainly far outstripped the most advanced reformers at home; so that even if the lower class in the colonies had any possible desire to possess political influence, most of the immigrants who arrived had no idea of it; and as those latter increased annually in proportion, flooding the country upon the gold discoveries, the political power passed into the hands of a majority composed of the class least able to exercise it. This not at once, but as surely as gradually. For as the better or more intelligent class were out-voted in parliament, they withdrew from these parliaments; and as they despised their victorious opponents, they did not join with these even for their joint benefit. From one step to another the breach has widened, until parliaments have only rarely an educated representative of property.

It may be asked, why the better class should be driven out so easily, and decline all interest in politics, and why the more democratic parties have no able leaders from the upper class? The answer is, that politics in the colonies are a mere matter of business, not of ambition or distinction, to the better class. Politics were at no time looked upon with the veneration and interest they claim in other countries. When the better class attended parliaments, they did so as a matter of business, not to fill a coveted position with distinction; and now that the lower class hold the power so exclusively, they work as at a business, or delegate their power to able men who work for office; honour and distinction are not thought of. Occasionally one of the better class will obtain a seat, but he will use it to protect his property or to redress a local grievance; all other questions—matters of greater and

more general interest—he leaves altogether to the multitude of politicians, and retires when his mission there is fulfilled. Generally an assembly is formed of a number of local deputies bent upon some local job, and bound to vote for any movement for the benefit of the lowest class which may be brought forward by any of that large proportion of office-seekers which forms the rest. This class is not disinterested certainly; but if not for office they would not be in the house, and they are the most intelligent and useful portion of the house. The parliamentary adventurers and office-seekers, so numerous in assemblies, are talked of disparagingly by all members of colonial communities; but they are the best part of those assemblies, and rather than lose their services it is questionable if payment of members may not be advisable. That they are the best—as they generally are, by education and intelligence—is a misfortune; but without them the assemblies would generally be futile wrangles about local jobs. Under existing franchises the present populations would still insist upon similar laws, and if they did not return educated adventurers to make these laws they could only return less able men; for the better class will not do their work for all the honour to be gained, and they have not the intelligence amongst their numbers which these political leaders have. It is the low franchise, and not the presence of place-hunters, which first excluded the better class from doing their duty in parliament, and they cannot have any ambition to enter upon a career which gives no honour.

A 'leisure class' has been talked of as the want of such new countries, but no leisure class would or will look at

politics unless there is fame and distinction to be gained. By 'leisure class' is probably meant an educated class, brought up to wealth or independence, or who have acquired affluence and complete freedom from any business. This is the last class to take any interest in a colonial assembly. There are many of this class now in the colonies, particularly in Sydney, for it is not the rule for men to return home when they make a fortune; and if honour was to be gained in the service of the country they would willingly accept the work; but honour is hard to find in these assemblies, and seldom has been accorded, at least by their fellow colonists, to retired politicians, however decorated or titled they may have been. There is no opening for ambition in colonial politics; there may be a job to be done, or a living to be earned, by interpreting quickly the wishes of the almighty unwashed; but the interpreter, if he is an intelligent educated man, must very often be ashamed of his own work, and his successes may lead him farther from honour. Political ambition is gratified in other countries by the mere fact of standing in the places sacred to great names, in holding the positions famous leaders of men have held, and in all the historical associations in which an old state always clothes its lawmakers and chief magistrates. Indeed, it is in the thought of these associations that a politician finds his chief, often his only reward; without its history how many men of the 'leisure class' would attend the House of Commons? In other countries where parliamentary government is tried, there is arduous work to be done under great political excitement when there are no old precedents to follow; the eyes of the world are upon old countries at all

times, and if their parliaments are new, they make up in their difficulty and risk all they lose by lack of associations.

No 'leisure class' will interest itself in its country's history until that history becomes interesting. American statesmen may decline in ability and in number, but that decline would have been greater, and yet less marked, had there been no Washington. That decadence, too, has recently been interrupted by a period which left one or two marked characters as guides to future statesmen and as lures to future ambition; and without either a Washington, a Lincoln, or a Lee to give a standard to be acted up to, there would surely be less talent and spirit in their politics of to-day. History only becomes important as it records struggles, and then leading characters come out. There may be great men in the colonies, perhaps men who would have claimed the admiration of the world had they been called upon for their abilities, but they have not been required nor produced; until history records such characters, there is little interest in politics. Perhaps this may lead to the conclusion that until wars arise no history can assign fame, for that makes peoples; but if even altogether true, if in earlier times success in war, more than success in hunting, ever made a people powerful, it is certainly not the only form of struggle known to civilised races. Struggles may be as decisive, for instance, at sea, by a commercial as by an armed navy, as the best maritime people will be developed as much by the one as by the other shipping. Wars have hitherto been the expression of natural activity and force in peoples, and that force makes the people great; but whether

it will henceforth be expressed in wars or in industry seems not quite certain for some generations; and without that proof of growth, and the record by history of that struggle, there will not be found much for a patriot's memory to build ambition upon. Until these colonies have fixed the attention of the world by their importance, their politics can give the actors no eminence; until some struggle has produced great leading characters, there will be no great names to worship and famed men to emulate; and without such incentives it cannot be expected that ease and wealth will undertake arduous and gratuitous duties.

But this indifference to politics is not confined to the rich, nor even to all the upper class, but is shared by all the community. The electors do not respect their representatives; they elect them or not; they may thank them or burn them in effigy sometimes, but only in rare partial or local fits of excitement; never do they accord them important consideration. This is common to all these colonies, and must have some other cause than the general low standard of political ideas consequent upon a less enlightened majority ruling the body of legislators. For this low standard varies, and the indifference to public duties is constant and general. Some colonies, as Victoria, have simple manhood suffrage, and these commit more mistakes—as in a passionate treatment of the land question or in the attempt to develop industry by protection—than Queensland, which has a franchise of ten-pound householders. But Queensland settlers have as little interest in politics as the rest of colonists, and all have much less than has been found at any time at home. There seems

to be only one way of accounting for such a general peculiarity, and that is the system of presenting political questions, or at least of asking the opinions of the electors upon these questions, and that system is the Ballot. Candidates for parliaments canvass more or less, attend meetings and answer questions; then people, as a matter of fact, go away and do not trouble to vote. They may vote for or against, but no one can tell which; opinions are not publicly recorded, and the mere want of this publicity tells greatly, more in a large low than a limited educated electorate. Voters may express opinions, but their known votes, and the public recording of those opinions, would give a much more certain guide to followers, and a much greater stimulant to politics, than any meetings and discussions.

It has been truly boasted by Australian members of parliament that their election expenses are extremely low, and their elections extremely quiet and orderly. There can be no doubt of this; they are ridiculously quiet, and, in fact, unimportant to the electors in all parts of the country, except the largest towns. These cities obtain some interest in elections because the numbers of voters are considerable, and are for the day diverted from other matters by the questions being forced on their attention by simply advertising, placarding names and cries, as any enterprise as well as politics can be thrust under their notice. More interest is again obtained in the capitals because the leading members generally sit for leading constituencies. But in the country only a very few go near the polling stations at all, and these with more curiosity than conviction. A small inland town of 300 or 400 inhabitants may contain 50 or 60 men qualified to vote; about half of

those may attend some meetings, but not more than 10 or 12 will trouble to vote. Members of parliament have been returned by a large constituency by a total of less than 100 votes. The last general election of Victoria, when many leading questions were submitted for public opinion, out of the total number of registered electors, 120,000 in a population of 730,000, only 65 per cent recorded votes.

Those who do make use of their votes are very seldom of the upper class, rarely the most industrious of the lower class, but generally include the idle and discontented. When purely local questions are brought forward some interest is created and a good muster made of electors, as when the choice is between a government member who promises a bridge and a local magnate whose property is not near that proposed bridge. But when the choice is between the local editor and attorney, or between a popular auctioneer and a young barrister, the election may amuse all, but will not bring out many voters; the publicans may rally some supporters and make good capital of their interest; but most of the community, including the most industrious, will hold aloof. The publicans, as a class, make good use of their political power, perhaps because they have more facility in organising, and can always make a muster of their supporters, the 'loafers'—an important vote in colonial elections. But none attempt systematic organisation except the Roman Catholics. This body is always in form, always known among themselves and ready at call, disciplined, and led by men who are again led by greater talent than most known organisations of any sort possess. This body is always pre-

pared to strike a decisive blow, but rarely exercises this power in case they acquire a dreaded notoriety.

There is not much serious consideration given to elections even by those who vote; on the contrary, it is generally only a piece of fun. Between two candidates, equally useful to the community, the more amusing will probably be preferred to the more honest and respectable; and this brings some odd characters into parliaments. A candidate must not be too good, he must not presume to be better than his masters; and it is not an insuperable obstacle to his return that he is a notorious rascal or an habitual drunkard, provided he amuses familiarly his electors. A well-known gentleman, who has built a settlement himself, never done a dishonourable deed nor wronged any man, who in fact does not know that he has enemies in his district, may find himself nowhere when he opposes a popular candidate of the other social extreme. His opponent may have been his convict servant, convicted again and again in this same district of all sorts of roguery and villany, a man who has made a fortune by dishonesty, and in the lowest paths; who has no education, nor even a desire for improvement; who has as little charity as honesty, respected by none, and even hated by many; who may, moreover, be on the way of becoming a useless drunkard; but the educated respected gentleman will not condescend to the low flatteries of this man, and albeit he is so superior and so much more useful, he will certainly be beaten.

When such men are preferred for legislators, there is no wonder that so much time is wasted by parliaments; besides whom there are many extremely ignorant honest

men, all pulled about by needy place-hunters. Wonderful exhibitions are made in manners, most fanciful replies and pointed objections exchanged, nights spent in personalities, and weeks taken to decide upon some rule of the house; when the civil service of the colony may remain unpaid for months, last year's budget not settled, and the Speaker unable to keep order. One Speaker is of no use when a whole assembly is bent upon telling each other their minds, and 'having a night of it,' and neither government nor opposition care for more than to keep sufficient men together to vote. So that much time is habitually wasted, and public business often in long arrears. Even when at earnest work, it cannot be expected that the united wisdom is of a high order; the popular members speak for themselves, the local men work for a local job, and the best of all must not forget who returned them to parliament; they must interpret their electors' wishes, whether right or wrong, lest they lose their seats.

Local jobs are among the most unfortunate peculiarities of these assemblies. Members are sent in to obtain some bridge, or road, or railway in their district at public expense; they are bent upon that, and care as little as they know about taxation, or education, or any general question. These members combine one with another to obtain a vote; they waylay government measures and oppose them until their demands are satisfied; they delay any public work until their private job is carried, and are thanked by their constituencies accordingly. The constituencies may differ among themselves, but the voters who returned these members wanted their bridge, or whatever it may be; they did not ask for education, or surveys, or

mails. Local jobs often arise from local jealousies. One district has a short good road to its port; therefore another mildly asks that some range of mountains be cut through for its benefit; another thinks it unjust that a similar town, however large and productive its district and back country may be, should have a railway, and sends a member to get a railway grant for themselves; another must have its harbour dredged, another its river's banks built up—all good and useful works, but none considered in reference to the whole community; on the contrary, they absorb all attention, to the neglect and frequent rejection of larger and more important questions, which would be infinitely more productive of good and of wealth to the colony.

The passing of protection in Victoria was achieved to a great extent by the combination of many small jobs, and their united assistance to government in other matters; that is called 'log-rolling,' or 'you move on my job, and I will push yours.' This was, however, helped by some general sympathy with native industry; for the people protected represented capital, while the voters who gave them their protection were the labour of the country; and any benefit these were promised by protecting their labour could not lead them to expect less immigration of competitors for these wages; while the whole press of the country tried to explain away all these promised benefits, and to teach some principles of free trade. The press, however, accomplished nothing, which shows how unable it is to guide the opinion of even its weakest critics. This shows also that in a democratic community reason is not so powerful, even when a subject is fully explained, as

mere feeling; for the same result has similarly been arrived at in America. Let political economy have all facts and reason on its side, but inasmuch as it is a science based upon the arbitrary assumption that men can act from pure reason with any sympathy whatever, it is false in practice; we cannot always do what we believe most conducive to self-interest, for sympathy will interfere—even if only unconsciously, through inherited tastes and dispositions. And it would appear that these feelings have more play when reason has been less cultivated; that a democratic electorate will have less of political economy than may be good for it. But this was only one cause, only an undercurrent, in the course of the legislation that has made Victoria preëminently protective. The laws were obtained as jobs; one man made boots, and wished them protected; another made beer, and wished importation to stop; another machinery, another perfumes, and so on, all wishing the importers would not undersell them; they combined to obtain heavy duties on these imports, and they have obtained them.

Free selection was another popular movement only possible in a democratic community, not justified by facts so much as dictated by feeling. The public lands had one time been too exclusively in the hands of the squatters, but that time had passed; there were open to selection abundance of lands when popular agitation obtained all public land to select from. The intelligent portions of the community all saw that labour and capital would be more squandered the wider the field was, for this form of investment was made by men without information and intelligence, each for himself; while production would be greater,

as well as safer, upon more known definite fields, available by roads, by markets, administrative government, and education. But there seemed to be something charming in absolute freedom of choice—that a man could go where he pleased, and apparently do what he liked. No considerations of land not being productive in many places were listened to; squatters always did well, why could not a small arable farmer? It was pointed out that wool might grow where wheat would not, that roads were more necessary for the larger and more perishable farmers' crops, and that the less capital in an undertaking the more necessary for assistance by labour, the more necessity for a population to supplement the work of mere tillage. But that was not listened to. Then it was pointed out that free selection might ruin squatters, who after all, directly and indirectly, kept the country going; but the lower class had no objection to ruin squatters, they disliked them as labour dislikes capital, not knowing their interests are mutual; and political leaders were not slow to head the movement. They took the tide as it flowed, they encouraged the hope that all the country could be brought under cultivation, promised a great advance by increased production and enrichment of all the community, by which again population would be attracted and the land permanently settled—not in a temporary fashion as by miners, or in a monopoly of squatters—but permanently by a thriving labouring-class independent of large capitalists; and they carried over all in two colonies the laws of 'free selection before survey.'

Such a crude solution of the land question is only possible by a democratic majority, who act with little in-

formation and less reflection; and it is not singular as an instance of their management. Many crude and most absurd ideas prevail. They cannot be expected to understand questions of dispute, and are very impatient of discussion; but it is remarkable that, with all their love of free action, to the length of uncontrolled freedom, they have still an idea or feeling that government is a superior power, far above them. They forget that they themselves made that government; that it is merely a managing committee of the concern in which they have more voice than interest, and they always in trouble look to it for help. When a depressed wool market reduces the income and expenditure of the community, affords less money-wages for labour, and less capital for industry, deputations of 'unemployed' wait upon ministers, and suggest that public works be made somewhere for their benefit; as if they had nothing to do with the payment for those works. When a railway has been opened to a district, the people along the line are seldom content with the boon of certain and rapid carriage, at enormously reduced cost in many ways; they generally ask for greater reductions; and it has been represented in local petitions that, because some one locality has a certain low rate of carriage, the petitioners are unjustly treated by having to pay more, although theirs is the longest and most expensive route, always dearer to make and to maintain; as if government was superior to natural obstacles, and equality should be created in spite of nature. But a more singular instance of the wild ideas some of the lower and most influential body in these democracies obtain was lately given in Tasmania. There some newspaper lately, doubt-

less writing for its class and their ideas, proposed that their colony should be annexed to Victoria, on the ground that if their fortunes were thus politically joined to a more prosperous people, their fortunes commercially would necessarily benefit—not by reducing the cost of government, but by sharing the good things obtained in Victoria, which, it was presumed, were not the gift of nature, but in some mysterious way of government. Perhaps this vague feeling of the parental power of their legislation is imported rather than native; perhaps they still have the old feeling that their law-makers are far above and beyond them, and do not always remember the fact that they, the lower and most active portion of the electors, are actually the choosers and the masters of their governments.

These are the tendencies of what are now called democracies—to become no democracy, or government by all the people, but a government by one class, and that the lower and less able class, of the community; a political state for which we have no word as yet, but probably will find it useful to name definitely before long. The more reduced the franchise the more marked the mistakes of legislation, and the higher the franchise within certain limits the more successful its management. The two southern colonies are most democratic, and their treatment of trade and agriculture results in protection and free selection. Queensland, again, has a higher franchise, and has succeeded more than any in developing industry. The franchise in this colony is limited to a property qualification, recipients of an annual salary of 100*l.* a year, or payers of a house-rent of 10*l.*; which includes as much

probably as a 5*l.* household franchise would at home. And their treatment of all questions will contrast favourably with their neighbours'. They are not more keen and diligent in political questions; that may arise from the ballot, and from the fact that in that small community more are new arrivals than in the other colonies; but they are more successful in their management.

Take their lands. Here they depart from the custom of high prices and free selection before survey; they throw certain lands open for certain purposes, and at lower rates than anywhere. Their sugar-lands are the richest seaboards, the valleys of navigable rivers, the finest soils in the most productive climates, and at the most accessible positions in their territory; and they sell these for less than the sterile clay-shale ranges of the interior can be bought at in the south. They insist upon only planters obtaining these lands, and cultivating them. The result is, that they already supply themselves with sugar, and will in a few years export to Europe. This is the work of six or seven years, and in ten times that period New South Wales has not become an exporter of wheat, while she has more agricultural lands, more labour and capital, and has spent more time in legislating for these lands than the younger colony can count altogether; and Victoria is not much more successful. The other lands are open each to their different natural products; cotton finds its place next to sugar; and farther inland, in a higher cooler climate, her wheat-lands are open; and these yield a higher average crop, by 50 to 100 per cent, than the areas sown for this crop all over the southern colonies.

Take their legislation for trade. They have left it

comparatively alone, which is the best of all legislation. They have taxes to collect, many of which are from imports, and they protect much more than Britain has done for long; but they really have no approach to manufacture to protect; they must import all but raw material, except a very few such simple requirements as the produce of hides and tallow; and their duties are for revenue, not to encourage manufacture or production. Sugar is liable to duty, but to tax that import may be called an imported habit, and was customary in all these settlements before cane or beetroot was thought of. They particularly exempt from the invariable ad-valorem duties all machinery introduced for sugar-making, and other production. But they did once disfigure their laws by a more marked and more pernicious encouragement to production; they gave a bounty upon cotton exported for a year or two. This was quite exceptional policy, however, and has not been repeated; they generally leave trade alone, and do not push any industry by protection, upon principle. They have again shown more discernment than their neighbours by throwing certain poorer lands within the more settled districts open to purchase, at low prices, in larger areas, for grazing purposes; they have submitted to natural laws, by which that industry is the most productive for those lands; and are trying to settle upon them the most population which the land can possibly support, by encouraging freehold graziers. In no other colony can land be bought at remunerative prices for grazing; freeholds may be made sheep runs, but they were never bought purely for that purpose—generally for agriculture, and often to protect other property. Again, their enterprise

and success will compare well with any in the matter of telegraphs; they have a line to connect with the submarine cable almost complete, and if not such an enterprise as that of South Australia, it is a greater success. Their railways are as productive investments, and they are the first to use cheap lines for comparatively poor districts. In any matter of management this colony will compare favourably with any other, and the general result is far more successful than many others; and this colony has the highest franchise.

So far from democratic institutions advancing a community, it is quite the other way; beyond a certain extent, very soon attained by our race, it would appear that by lowering the franchise we lower the intelligence of the governments, and consequently the management of the country. Not democratic ideas nor any other systems, however, can retard the progress of a new country, in a healthy climate, held by a vigorous race. The gifts of nature are there to be appropriated as they are not elsewhere; there is ample employment, and that is the greatest of all blessings; nature and industry make wealth, and only these. America is rich and prosperous because it is an open rich field for industry; not because, but in spite of, democracy. From dissension to anarchy and corruption the States may pass, but the people always prosper. No amount of misgovernment can retard such a country; no debts nor corruption, nor the absolute disorganisation and anarchy of whole districts, as in the South, can keep back production permanently; only permit people to work in any part of the wide field, and governments will be puzzled to overtax and cripple the national resources.

CHAPTER XVII.

Present state—Production in South Australia—Victoria—New South Wales—Free selectors—Squatters—Middle-class wanted—Value of labour—Education.

THE general position of these settlements is that of a pause to concentrate energies for a new stage of production and progress. The only exception to this is in tropical Australia, where occupation has hardly begun, and where there is also a pause, that a new system may be found to adapt settlement to a new order of conditions. Elsewhere occupation has found its limits, the natural resources of climates have been tested, and a fair estimate may be formed of what the land can do. Occupation has for many years ceased to penetrate inland, but always crept along the northern coasts, and that is now the only outlet for pioneers; they have gone inland until the climate drove them back. Growers of wool and growers of wheat have found limits beyond which they cannot struggle against climate; these are the main industries and support ninety per cent of all the populations, and now they seem to pause to ascertain how to make most of the natural resources they possess. Production has found no limit, only the area in which production is possible; within that area new systems are reducing the cost and increasing the crops of both staples; within it

population is beginning to concentrate, to find thereby more means of production, and to think of manufacturing industries. In tropical climates the area is as yet unknown, the field unoccupied; but here they pause that a new system may tempt settlement. European labour only is wanted in the south to grow wool or wheat, but in the north another immigration must be obtained to grow sugar.

In all present colonies wool is the one staple, gold is the next export of most, and wheat is a small foreign export comparatively, after all colonial markets are supplied. But in the colony of South Australia, which supplies many others with wheat, this crop is of second importance; it has been grown here more successfully, although in poorer climates, than by any of their neighbours, and was considered a brilliant success in the way of settling a population. Their lands were not richer nor their climates more certain than in Victoria and New South Wales; but whether from the law of selection only 'after survey,' by which population could not scatter in experimental farming—or from the fact of their agricultural population consisting largely of Germans, who were very steady settlers—they have done much more with those lands. The crop was larger in 1873 than ever it was, but not much larger than it was many years ago; and while the annual average crop is becoming less in most districts, the extension northwards of wheat-growers has apparently reached its limits. Indeed, a large emigration of agricultural settlers took place some years ago from this colony to the new lands of adjoining colonies, showing two facts: that their own lands were being exhausted, and that

wheat-farmers are not permanent settlers if they can do better elsewhere.

Wool-growers also received a check by going too far north. Fine seasons tempted flocks into the interior; then droughts drove them back, and floods destroyed many in their retreat. This central district may grow a good deal of meat, and possibly some wool, but rarely independent of a homestead in the old settlements, to fall back upon in extreme seasons. Neither wells nor dams avail here, and the natives can hardly travel from one well to another in some seasons; there is no rain to collect, and vegetable with animal life has always been most scant. But in the old settlements seaward, production is still increasing. Soils may be exhausted, but manure has hardly been used yet. Runs may be stocked, but fences and improved water-supplies will increase the use of pastures; and the accumulating results of experience and care in breeding will again greatly increase the annual wool crop. The population too in this colony is not so scattered, so often unprofitably employed and so badly informed, as in many others; and although a small community, their production and their progress will probably be excessively rapid.

In the south-eastern angle of the continent, however, there is the richest field. Here mountains bring rainfalls, seasons, and temperatures to develop the produce of the soil, and enrich industry still more by their mineral wealth. In proportion as we find mountains in a continent, do we see climate and natural resources supporting people. The sea supports many, but the land none, except it has a climate tempered by the sea-breezes. The plain may be of the richest soil in any temperature, but without the

cloud-compelling mountains to water it, neither man nor beast can live; and it is in proportion to the rainfall that population is settled in this continent. Not the average rainfall, for that is of as little value as a mean temperature in telling the capabilities of a land; it is the extremes of both that limit production, and production only supports population. A mining industry is altogether beyond the influence of soil, which depends solely upon climate, but even mining or manufacture depends greatly for its cost upon the climate, for this regulates the class of labour. In any country, of any race, we shall find that a ratio is maintained between regularity of rains, climate, production, and population. From these causes it happens that Victoria is a rich colony, not from gold of itself, from democracy, nor from both together; simply because it is the choicest exposure of the largest mountain-system and in an angle of the coastline.

One-half the frontier of this province is formed by the sea and a navigable river, and of the rest the greater part is the watersheds of the highest range in the country, and which faces the air-currents southward from the sea. All this province is therefore accessible by commerce, all has a tolerable climate, and only one north-western portion is open to the arid air of the interior; only this one portion is severely limited in its production. Wool is its leading export, but gold is its principal produce, for much of this wool is from the back country which it rules commercially though not politically. The area of wool-country has long been limited, but still its production increases, for even here it is more favoured by climate, and the cost in labour of producing any crop, than agriculture. Land designed

for cultivation frequently reverts to grazing, and even tilled lands, under made pastures, are often found to produce more in wool than in grain. Both crops are largely increasing, and both by cheaper methods of production, without any limit being apparent; but wool will probably increase more than wheat. Gold-mining, we are told by a high authority, is only in its infancy; for not one per cent of the mines that may be expected have as yet been discovered; and as improvements in the various ways of extracting ores are being daily applied, we cannot imagine an end or a limit to the gold which Victoria will continue to export.

But democratic ideas have by law placed some checks upon production for the time. They have scattered labour, and no small aggregate of capital, all over the territory to grow wheat; to the end of a miserable total crop for all the land labour and capital employed, to the weakening of the intelligence and intellectual force of the people. They have fettered production by protecting all manufacture, whether promising or not to be remunerative; to the absorption of much capital and labour which would otherwise find naturally their best channels, and to the encouragement of an idea that government should foster industry, not industry look for the natural resources of the country. The evils of these mistakes are not so much felt yet as they will be, and will be more from Protection than Free Selection. For this territory is too limited, too well fertilised by climate, to leave much room for total failure in agriculture; much industry will be misdirected to barren soils which might be fixed profitably on still vacant rich fields; but protection opens an unlimited field for the

waste of energy and industry. The other evil course will tell more severely in New South Wales, for she has not availed herself of the favours of protection so much as Victoria; but having a wider range of land, she has scattered her people more in free selection and misspent much of her industry, and under a less productive climate.

The territory of this province extends far into the interior, and with it free selection before survey is the custom throughout. Now, from the nature of the country—its exposure of coast lands to the interception of rain-bearing air-currents from the sea—the interior has less and less rain towards its centre. But good lands extend inland, and, notwithstanding the decreasing rainfall, tempt settlement; the agricultural settlers are not intelligent nor capable of valuing climate; so good soil and an uncontrolled freedom in selection leads them beyond the limits of profitable production. Besides these inland failures, a greater number are made among the wide ranges of mountains nearer the coast, from the want of communication with markets, the isolated position of small settlements, and even of farms; and from the evils this style of life creates, the people become hardly able to live, although assisted by grazing rights or commonage, and abandon a very large proportion of their holdings.

The traveller would be surprised to find the desolation there is in many agricultural districts. He may ride over barren ridges of hard clay, baked by the unrelenting sun of a dry climate, through miles of the hard-featured forest that gives no shade, and wonder what the land is fit for. He will possibly estimate that, in such a mild winterless climate as Australia, some live stock could profitably be

raised in these wide sterile forests, but very little; he might hope that some ridge may be found less repulsive to cultivation, upon which in future ages possibly the vine might be grown; but he would never dream of wheat. When suddenly he descends into a small valley having some signs of a habitation or of improvement. Here are patches of open pasture, greener and thicker than the scant forest grass; they are rectangular—but he sees no sign of life except the herd of wild horses that rush over the ranges as he approaches—then he finds stumps of trees, the charred remains of fences, and the blackened corner-posts of huts and yards, burnt by the last bush-fire. Adjoining is another similar wreck; and several more are passed as he goes up the creek before he finds a living creature. Here he meets a youth riding a young colt, looking for horses. This lad says that was his selection—the first he saw; he has passed four deserted free selections—'Yes, the soil is good; crops were not so bad, until late frosts always spoil them—does not know about oats, they might do better—intends to go on the roads as a carrier if he could get horses. His father has had several selections here; no good—lives by his team—some good selections over the range;' and so on.

'Over the range,' the settlers live by their teams, or by shepherding sheep on terms for storekeepers or the small capitalists of their class; crops are hardly worth reaping some years; then they have to take them twenty miles to a mill, they are ten from a post-office, never see a newspaper, only grow what wheat they require and as little as possible, sometimes sell a horse or a cow, spend most of their time looking after their stock. All these selections

have been made at great cost; the time of a labourer is worth 50*l.* or 60*l.* per annum, his horses and cattle work also, his savings are invested, and often 200*l.* or 300*l.* are sunk, besides the continued labour, in obtaining a bare existence. At the same time there is a large tract of beautiful downs, extending miles in width, within twenty miles of this range; the soil is better, the climate the same, and if all these poor settlers were collected together upon these downs or any one field, by the combination of various labour and the constant friction of intelligence much would be saved to the labourer, and more certain guidance given him. He prefers very often to be out of the way, especially if he has a taste for stock and riding, as most natives have; but by being remote and scattered, settlers have neither mill for their grain, blacksmith for their tools, markets to buy and sell, information, intelligence, nor education. Had the selectors some limit, they would be restricted to fields thereby more densely occupied; these limits would not exceed the information possessed of climate and possible production, they would support small towns, the crops and the men would be better.

Squatting stations are remote and isolated, but they are kept by quite another class, and are each much larger than many small settlements. A station may be the hut of a stockman and his mate, but it generally is, especially under the new system of fencing, a homestead numbering many men, from 10 to 100. These are by no means cut off from the world, nor poor, nor wanting intelligence. The squatter is in almost all cases a man of education; his men are more active, more fond of change, and more

conversant with the world than the free selector; they have frequent mails and constant interchange of ideas, and these ideas they get from higher sources than are accessible to smaller less-educated settlers. A station has at all times direct and frequent communication with the largest capitals; it generally is quite independent of small towns for markets, for skilled labour, or for information; everything it does for itself, except what sales and purchases are made in one of the three capitals of the country. There is, therefore, no parallel between the remote station and the less remote, but more secluded, free selection. The first has capital and labour to do everything required, the latter is an isolated attempt of labour to exist. And this disparity tells as time goes on. For the men upon stations are rarely married, and always save money while upon a station; whereas the free selector generally has a family and has rarely the means of educating them.

The life in the by-ways of free selection is very different from fancied pictures of Arcadian happiness, and not creditable to any State. The poor struggling settler rears a family without any knowledge whatever, without example or precept beyond the routine of his hard life, and without even the power of obtaining information. For if only reading is taught, everything may be learned. His sons can ride from the time they can walk, they hate the hard labour of the plough and the spade, they have horses without requiring to feed them; their only relaxation and pleasure is in the saddle, and they become devoted to it. Their only stimulant is riding after the wild stock of the ranges; their only success is in securing some animal

their comrades cannot, or in riding a horse that terrifies every other. Their only glory is riding; and their idea of success in life, of personal distinction and notoriety, of everything their limited imagination can hope for, is by the saddle. Their minds are altogether absorbed by stock; they remember every horse they ever saw, and can recognise him anywhere; they never mistake a cow; they know the ways of stock as hunters, and the directions and locality of places as well as birds; but their knowledge of literature is confined to brands. No school within ten or twenty or thirty miles, such a lad never entered one; or if he was more fortunately born, and had some chance of a child's lessons from educated parents, they were too few and far between, in the hard struggle for existence, to make much impression. Now, as such a youth grows up he has only one honest livelihood open to him—to be a stockman upon a station; but there are 100 such lads for every stockman. He may possibly be persuaded to select land and settle; he selects land, and probably gets married; then in two years he is reduced most likely to starvation, deserts his home and family, and is never heard of again. He most likely lives ostensibly as a horsebreaker; he hunts for lost animals, acquires a dangerous knowledge of all the stock in the district, and is generally suspected of horse or cattle stealing before he is guilty. But that comes in time; his knowledge and opportunities are too great, and his temptation to make a few pounds too irresistible, for one in such precarious occupation; he merges into a thief in many instances. From that to bush-ranging only requires a fair chance of development; and without the electric telegraph there would in all probability

be districts now impassable in many of these mountainous tracts.

But the crime committed is nothing to the idle unproductive habits so many youths acquire, to the distaste for agriculture engendered by such frequent and general failures, and to the future hindrances—material, intellectual, and moral—which are being built up against the progress of posterity. And this is the more deplorable because there is ample room for all this labour, ample lands capable of profitable agriculture, and every inducement to settle population upon these lands in such cohesion, and within such limits, as the law and education can reach. Only one inducement fails—the democratic notion of freedom as expressed in 'free selection,' the democratic taste for uncontrolled and if possible unseen liberty, and such crude ideas, which are expressed by hidden and often unconscious feelings. Without these feelings finding vent so strongly, in opposition to the interests of the settlers themselves, more than, as they supposed, against the capitalists who monopolised the lands, the selection of homes after survey would have been satisfactory. That this law remained unmoved in South Australia may be owing to the smaller population not being sufficient to give force to democratic aspirations, while all must have known that their more limited resources required more careful development. But however great the natural resources of the other colonies may be, they only waste them by not devoting their best management to their expansion. The labour and capital expended in fruitless agriculture in Victoria, and more particularly in New South Wales, would have far more than supplied them with bread long

ere this; they would have been large exporters of wheat years ago, without detracting from other industries; on the contrary the success of one industry would have helped all.

New South Wales has immense natural resources; few lands have more. Even within the lands having sure seasons, there extends more wheat lands than any other colony or state possesses, not excepting California. Victoria is a remarkably fine province, in that it is nearly all productive, whereas New South Wales has an immense territory extending far into the less productive interior, but yet it has more land in climates fit for wheat than both Victoria and South Australia together possess. California produces more wheat, because that is its staple; it cannot grow wool well, for her sheep must be shorn twice a year or their fleeces fall off. New South Wales produces wool principally, and has not found wheat so profitable; but it is to be regretted that the attention hitherto given to this crop has not been more productive, as it ought to have been, and they have only to thank extreme democratic ideas for the comparative failure. The limit of wheat production is not yet conceivable here, although the area may be partially estimated. Their best wheat country is upon the inland slopes, and its limit is the rainfall. But this limit cannot be so easily defined, as not averages but extremes decide if production is profitable, and there are not yet any number of observations to make calculations upon. About 200 miles direct inland the average rainfall may be 20 inches; that is more than enough for wheat if it is at all regular, much less will do; for wheat can be grown in South Australia in half that

rainfall, when it comes opportunely, and upon a soil not desiccated by long drought. But it has no regularity; seasons may range from a rainfall of five to one of thirty inches or more, and the former drought would be no less disastrous to crops than the latter wet season with its floods. On the other hand there are many localities, having a much lower average than twenty inches, which from regularity—obtained from neighbouring ranges, or elevation and exposure, or other local causes—would render wheat a safe crop. On the whole there cannot be less than 15,000,000 of acres of wheat lands still for sale in New South Wales.

The other productions of this province are equally capable of increase. Gold has not been so thoroughly sought for here as in Victoria; the auriferous land is much larger, and, except in alluvial fields, probably quite as rich; it is not near its limits. Wool might be much more extensively grown, and this is again limited by the same land system. The land is all supposed to be fit for agriculture, sold for that purpose, and also expected to realise a price as property of value. The consequence is that the choice spots are picked out for selection, and generally from their isolation even those are unproductive, while the great proportion remain unsold, and of no use but for reckless grazing, under an annual precarious lease, subject to encroachment at any hour. The fact that wool will always be a staple is not admitted. All soils and climates are intended for grain or such crops. But many are not only of little or no immediate use, they probably will never be of more for ages to come, if ever, under present ideas of land. They may be of too poor soils or in too dry climates for

cultivation, yet could produce much wool if some improvement of pasture was justifiable; but no expenditure is safe under such very precarious leases. All those wide barren ranges, in the narrow ravines and valleys of which free selectors struggle unsuccessfully, even within productive climates, are of too poor soils for cultivation; but if sold at moderate rates in sufficient areas they could support a large class of graziers, men of moderate capital who as yet have no place in the country. All the plains at the edge of the possible inland limits of wheat, of good soils but scant and uncertain rainfalls, are the finest for stock; they, too, could support more stock and more population, and maintain this desired yeoman class by grazing, under more liberal land laws. But as yet there is no middle class of lands—too poor for cultivation in either soil or climate, but capable of improvement as pastures by moderate capital under a secure freehold tenure; there is no middle class of settlers, between squatting capitalists and simple labour—contemplated by the land systems.

Queensland alone has recognised the fact of both climate and soil being required conjointly to render agriculture possible; and has offered inferior lands in areas large enough for sheep farms at greatly reduced prices.. She will have a middle class of settlers before any colony, although she offers equally well for capitalists. Squatters will not be displaced to a great extent by sheep farmers, and would not be touched in most of the southern districts. For the great plains of the interior, with their scant vegetation and desert-like climates, will always require capital to work stock in large numbers and encounter the great risks. Improvements may here be more safely made than

under leaseholds, for there is less chance of any other settler questioning the squatter's natural field; these improvements will be of greater extent and cost, as to water immense areas, and will always require capitalists. But a more varied country with greater rainfalls will require less room for stock, less storage of water, and may be within the compass of moderate capital under skill. This is within the limits of southern temperate climates. As to Northern Australia, beyond the tropic as defined by production, beyond wool country and within a purely tropical climate, where sugar will find its safest field, another system will most likely prevail in all laws and customs; but that is of the future, for colonies not yet named to decide.

Victoria has not safely established a middle class of settlers. The mercantile community are not generally ranked as settlers, for they are not directly productive, only the agents of producers; and beyond them there is no middle class as yet in all the country. Labour pure and simple tills the ground and works the mines. Capital grows wool. The only productive middle class rest upon the fickle sands of protection. Between the two no man of moderate means finds a safe field. Squatting is no business for any one with less than 15,000*l.* or 20,000*l.*; if one goes into it with 2000*l.* or 3000*l.* he will probably borrow until he is ruined; and if he has great experience a small capital will return him less than his services. Farming is only undertaken by men without capital, principally because laws and customs intend it so; the areas of land purchasable are so small that no one can find room for large operations as in America, where there are farms of

all sizes up to 20,000 acres under one crop. Mining is by labour, only assisted by extraneous capital, drawn from commerce or squatting, or other disconnected pursuits; rarely has any man with even 200*l.* or 300*l.* settled industriously to mining. He may speculate in mining; thousands of all classes do; but that is an investment, or simply gambling in most cases, and very rarely gives any other assistance than the mere capital to the industry. As yet there is no middle class between capital and labour, and a yeomanry is particularly required.

It was at one time hoped that some of the many land systems would establish a yeomanry upon the land, in the sense of a middle class. But they have all been made for labour, and generally by that class. The free selector or the rare tenant-farmer has seldom more capital than will put in one crop, and his team; he sometimes has not even that, but borrows from his merchant from the first. He has his labour, and very little more, to invest. But it is that they have not the education to become a middle class which defeats any such hope. Such a section of the community must have education; their place is to stand between capital and labour, between an oligarchy and a low democracy; to prevent either monopoly of land or free selection before survey, either local political jobs or protection. As yet no industry is open practically to this class. The young man of education who immigrates can find nothing to do with his 1000*l.* or 2000*l.*; it is far too little for squatting; commerce is always overcrowded, mining is too speculative, manufacture very doubtful, and not to be trusted under the protection of an ignorant constituency; there is, in fact, no field for small capital. If

he has no capital, only education, however complete or practical, he has no prospect beyond a certain stage. He may find employment and save a little money; but, then, what can he do with it? Both such men will probably lose their small capital in some venture which lay at the mercy of large capitalists, and continue to live by their services. But a middle class might be formed of such men in the less productive of the more accessible lands, in districts too poor in soil or climate for agriculture—and yet within the radius of that settlement which supplies towns, and labour of all kinds, to assist production—less remote than the large squatting runs, where everything must be done independently. Queensland is attempting this settlement, and it is hoped that others will follow her example.

The labouring class, however, thrive throughout these colonies as they do nowhere else. Wages are as high upon the whole as in any country, and, as elsewhere, always varying; but no country beyond this group of settlements has at the same time those high wages with secure protection of life and property, and in such a remarkably healthy climate. Wages may be as high in some inland American states, possibly higher, but their climate is more trying to all but the very strongest; more clothing is required, more idleness compulsory in winter, and less is left to be saved by a labourer. Wages and climate may be equally good in California, but there is not such security to property and industry as under British customs. Security and wages may be as good in Canada, but her climate is not comparable to that of Australia. It is no wonder, then, that so many succeed in becoming capitalists, nor that so many become the most

reckless spendthrifts. Any able-bodied man receives wages that, beyond all possible requirements, leave him 30*l.* a year to save; and many unskilled labourers save twice that sum. Upon the farms the lowest wages are generally given, but these are about 15*s.* per week, besides all food. And here is the striking difference between home and the colonies; that gives wages to buy food and nothing more, this gives food beyond all wages, leaving money to supply nothing but the little clothing required in such a mild climate. These farming wages are, however, generally 20*s.* per week, and in harvest many men earn more than that wage daily. Throughout the whole of these colonies the wage may be estimated generally at 1*l.* a week with food. Stations give more and less, as an active man is preferred as a stockman or wagoner, and any man can shepherd. Mines give generally much more; but they require some skill in labour, and are always a more uncertain employment. Upon the whole, there is no risk to health compared to what there is even at home; less enforced idleness, for there is no winter and very little wet weather; and wages from which an independence can very soon be saved.

The wages are unfortunately only too high for the good of many of the recipients. A labourer, who had a hard struggle at home to keep body and soul together, suddenly finds himself in the colonies an independent man, with 20*l.* in his pocket. Such a sum he never before dreamt of possessing, and here he can earn it in a few months; his good fortune is too much for him, and he spends it recklessly. Hence the continual drinking by men who are not drunkards. They keep sober and industrious for months;

but as soon as they receive a large sum in wages they spend it at the nearest public-house; this in the country and the bush. In the towns they gradually acquire extravagant habits; the artisan class dress and take holidays and dissipate to an incredible extent, spending as quickly as they earn. And it has been noticed in many districts that, as wages declined, as they did in Victoria after the gold fever, the labouring class became much more prosperous generally; they were actually better off, from the little frugality this taught them.

The lower class do not want wages, nor protection, nor any material acquisition; they require education. They are the most influential body, as being the most numerous in a democracy; they are twice more influential politically, as having driven the upper class almost out of the field, and they are increasing in their political force daily; but they make grievous mistakes in the management of their country. Not their legislators are to blame for this, but themselves. They blame and criticise governments as if they did not create them; they forget they not only elected their members, but frequently bound them to certain services, which these members, may have to perform against their own private convictions. The political adventurers so often seeking office in colonial parliaments could not be displaced except by less intelligent men, under existing institutions; and these institutions cannot be narrowed. A higher franchise would bring higher intelligence into politics, but it is impossible to raise a franchise; the only hope is to raise the elector, to 'educate the masters.' As time gathers dignity and memory associations round colonial history, the political field may become more tempt-

ing to men of fortune and activity; but these will always be a few compared to the great mass of less reflective and more impulsive electors, whose wishes will still rule. The hope is to raise the intelligence and control the rash impulses of this mass. That hope can only be realised by Education.

Practically, at the present moment, without any ulterior views, Education is a pressing want in most of the country districts. Had population been confined to certain areas, as 'selection after survey' would have done, the young generation would have been within the reach of education at little expense. But scattered over the mountains, far into the purely squatting districts, in nooks and corners often, as if shunning rather than seeking civilisation, there is growing up a young generation which it will cost perhaps more to govern than they will be worth. They have not only little education or none in these remote corners, but they have no good example; no school for their minds more than a savage has, and frequently a most pernicious current given to any ideas they may acquire. There is still throughout the country, and most preserved in out-of-the-way places, a remnant of the old convict code of ideas. That code held all justice, respectability, wealth, and almost happiness, as their enemies, whose hands were always against them and against whom they should be always armed. These ideas have no definite expression nowadays, but they have tainted many neglected minds. The evil will be a costly one to cure; it will be a most difficult and expensive duty to educate the scattered families in the interior; but because they are so scattered and lost to the light of civilisation, it becomes still more

a duty of the State to educate them. The State led them out into the desert, however willing they themselves were to go, and is morally responsible for their fate. And the State would probably incur more future expense in administering justice and controlling this growing population than in educating them now; besides the disgrace of the first course.

The want of education is not known in towns, either national or denominational; but in the remote districts the schoolmaster is unknown, and they care for neither priest nor parson. Taking the statistics of 1871, we find that out of the million and a quarter of population in New South Wales and Victoria, 38 per cent were under thirteen years of age, but the total number of 'scholars' returned is only 17 per cent. Most of the children in towns and mining districts would be educated, probably 80 per cent of them; and as fully one-half of the population is collected in these centres, there can be only one in eight or ten of the rest of the children attending school at all. This state of affairs is, however, recognised in Victoria, and Education is here being put entirely upon a national secular system, by a law which invites all denominational schools to enter this system without other change than is necessary to make their teaching free of religions. The schools are rapidly availing themselves of this; while education is provided gratuitously and attendance is compulsory. Queensland also is establishing a system of 'free and compulsory' education. Perhaps no possible investment of a young state is so productive materially as education; neither railways, nor land systems, nor any liberal laws to tempt population and enterprise, will do so much

for future progress as Education. The effects are not so direct perhaps, but they are not the less manifest very soon; they increase more rapidly and in a more accumulative ratio than other investments. Both an urgent want to the community and a check to rash legislation will be given by a thorough system of education; and nothing else can raise the intelligence of future laws. The more information—the more thirst for knowledge and the more inquiry—the greater safety in enterprise and settlement. Educated men could not be led away by free selection, nor would an educated constituency pass such a measure; but to turn an uneducated class of society loose upon a wilderness, and not to educate nor watch them, is to waste land and labour, to spread ignorance and increase crime.

CHAPTER XVIII.

Prospects—Future production of wool—Gold—Grain—Irrigation—Trade—Manufacture—Sugar—Northern settlement—The Dominion—Effects of climate.

FROM the limits of the different fields of production, and consequently of population, having been reached, the reader can estimate the future grouping of population. The extent and power of these people is a wider question, but we may roughly define their positions. Only narrow belts of country within 200 miles or little more of the sea are really capable of carrying much population. For the exploration of the eastern half of the continent has been completed, without mountains or deep lakes having been found capable of tempering the fierce aridity of that interior; and it has not been found possible, after many gallant attempts, to penetrate the western interior, which stands condemned for settlement by having no great rivers debouching on its coasts, nor any indication of an inland drainage. All the continent is girdled by ranges of mountains a short distance from its shores, except on the south; and those ranges give all the natural resources of the country. Soil only is of value where there is sufficient rain; however rich, it is as useless as capital without labour if it is not in a productive climate, and the climate is only enriched by mountains which drain air-currents from the sea. And the mountains expose the minerals; they vary

the climates, productions, and industry of the country; without them and the sea no land is rich.

This extent of productive area is not sharply defined, but merges very gradually towards inland sterility; so that even the centre of the continent may support a few cattle, and very few breaks be eventually found in the chain of settlement. But the nearer the coast, the more productive and populous the country. This coast-line again is of such length, extending meridionally through all the range of temperate and tropical climates, that its capabilities are enormous, equalled by no other country for range and variety. Settlement will not extend more towards the interior; neither telegraphs nor railways will bring rain; and this is the one limit to settlement in the Australian interior. But all the coasts are being rapidly occupied. Carpentaria has been settled for some years by squatting occupation, and westward another base of tropical colonisation has been formed at the most northern—and most central point of the northern—coasts; which, assisted by telegraphs to all the world, may be expected to open fields soon to be developed. The north-west is unoccupied, although thoroughly explored; and here the coast and country is like most of the others. Settlement is only possible a comparatively short distance inland, but this belt of land includes different climates and offers different fields of production and industry, temperate and tropical.

The present staples of the country may be expected to retain their present importance. It was once thought, and hoped by many, that wheat would displace wool, but climate has decided otherwise; wool will probably always be

the principal export of Australia. It is preëminently a wool country; no other is so adapted to this product by its healthy, dry, and temperate climate. Besides which there must be some other peculiarities that more particularly favour wool here; for the climate of California possesses these characteristics, yet does not grow wool so well. But the area of wool country may be estimated from the fact that sheep have been tried far within the tropics, but have receded to the 22d parallel, and have gone too far inland also. Yet both numbers and quality of this stock are so rapidly improving, that there is no conceivable limit to the wool crop. For numbers will increase by improved systems of economising pasture and storing water throughout all squattages; while those intermediate lands hardly capable, from lack of either soil or climate, of successful agriculture, yet worth improving for grazing if the tenure was secure, will surely yet pass into the hands of a middle class of moderate capital, to the great increase and improvement of wool. It is this class which may henceforth be expected to improve stock most, for it will be largely recruited from the overseers and practical class of breeders now employed by large stations.

Gold will probably also continue to be the second export. The yield may vary annually, and some fields give place to others, but these fields are even now numberless. Some of the earliest of all were never so productive as they are at present, and it is particularly revelant that mining was probably never so productive, so profitable, as it is now, not only for labour but for capital. The old alluvial digging was much more a matter of chance than the present scientific mining; the latter pays wages always

or is abandoned; capital is annually accumulating in the country, and more of it is yearly finding investment in mining; there is no limit to this investment, and science is steadily reducing the cost of production. Other metals will share some of these improved conditions of industry, but gold will always receive the greatest development; for it is more generally diffused through all Eastern, and possibly in Northern, Australia; always in the productive mountainous belts of settlement, in climates more or less inviting, and near all the facilities which settlement and population give an industry.

These facilities to production are so indispensable to wheat and grain growing that they are the principal check to production. Land, labour, and capital all combine to very little result in total crops, simply from the wide field their operations are scattered over. The same industry concentrated upon certain fields—and these are as well known as they are comparatively idle—would give much better returns. It is by this limiting of the field that agriculture has been so much more successful in South Australia, under the system of selection after survey—which has been practically followed with as much success in Queensland, and it is hoped will find some imitation or counterpart in the greater grain provinces. Wheat is the one food as breadstuff of all the community, and promises to continue so. For although maize is the best crop as yet in New South Wales and Southern Queensland, it has never come into any use whatever as human food; unlike the Americans, the Australians will use no bread but of the finest wheaten flour; neither maize, nor barley, nor oats are ever tried except as odd substitutes for wheat. This

may become the third export of all the temperate regions; although it has hardly yet become a large enough crop to supply colonial demands in every year, yet it is increasing; and in spite of great irregularity in crops as in seasons, it will probably be an annual export more or less henceforth.

The better application of labour will do more for this production than any other action of legislation. South Australia has one-fourth of all her sold lands under cultivation, Victoria about one-tenth, and New South Wales about one-twentieth part; the first colony has her lands open to selection only after survey, the other two before survey. It is by adopting the former system, more than by any other legislation or interference, that agriculture will flourish and rural population be settled. Some idea of the country being devoloped by irrigation has more than once cropped up, and vague hopes are very generally entertained that the great inland slopes could be made arable far into the interior. But this seems, upon consideration, extremely doubtful. There is little supply of water, and an excessive quantity is required to irrigate arid lands in a very dry atmosphere. The streams that collect in Riverina effect their junctions only during floods; they drain enormous areas without making great rivers; they have no regularity in their seasons of drought or flood; they have little fall to remove these rare floods; their waters lie evaporating upon flat plains in a dry air. The whole river system signifies how little rain there is to collect, and how difficult that little is to bring together. A stream like the Murrumbidgie may always bring a mountain flood into arid plains, as does the Murray; but

neither is a great river—only a fine stream, and quite unequal to the great irrigation that is required for agriculture to settle population. There is no parallel conceivable between Indian and Australian rivers, nor their adaptation to agriculture. For their floods bear no comparison, nor their system of drainage. The Australian rainfall is too small within that wall of ranges between the interior and the sea to give the supply of water which alone could irrigate any tract of country.

But future exports of wheat will increase in so many countries, and so enormously in all Pacific settlements, notably in California, that commerce will have to find wider markets. It is possible that as wheat becomes more cheap to import, and as meat becomes scarcer and dearer, English farmers will find the latter a better investment; that more meat and less grain will be grown at home as colonial wheat comes in. Failing some new opening, it is difficult to say what can become of the increasing annual crops from the Pacific; which this year left an export of one million tons. The absorption of wool is a less doubtful matter. The daily demand for it is increasing among present customers as wealth increases, and there are many fields for its supply not yet open. America particularly, from the long severe winter requiring all animals to be housed, and leading to agriculture rather than grazing, will never raise wool so cheaply as Australia, while her lands will generally be cultivated for grain. She will find it advantageous to buy her deficient wool in Australia, and has already begun to do so. China also, in the less-known northern provinces, has an enormous population without any woollen clothing. They wear cotton quilts

a poor defence against the rigour of their winter, and, one traveller adds, they use many fur dresses so rare and valuable that they are frequently pawned in summer to obtain means to cultivate their lands. This market may be remote to present calculations, China is still locked up, but a change must come—it is only a question of time—and then Australia will most probably clothe their people. Many new productions will arise, as preserved meat, which will become a specialty; copper and other metals, now being developed; sugar and tropical produce, but not more than intercolonial trade will absorb for some years; and more than all, a considerable quantity and variety of manufactures, which will shut out importations. Exports will continue to increase in all the staples, for home consumption will bear no comparison to increased production; but imports may decline in many leading articles. It is not likely that any Chilian flour will ever again find a market in these colonies in the worst season; in a few years Mauritius sugar will be shut out; and British manufacturers will have to contend against protection. It is most unfortunate that any—and more so the most energetic and prosperous—of these settlements, should protect so strongly and so indiscriminately. But Victoria protects nearly every article to be found in the colony; other colonies seem more or less to be following; and protection in Australia means quite as stringent a curb to importation as in America. Nor is it likely to be amended for some time; for the constituencies have not the intelligence to grasp the question, even when put to them, and the effects of misgovernment are very slow to tell in a new country.

The only safe base for a manufacturing industry is

large fields of cheap coal; and where these are allied to mines of iron and other metals, there is no limit to the production and population a country might carry. As long as steam is the motive power, we cannot expect a lower price of this power than coal, and coal is the price of power. No wealth of soil and climate, nor even of minerals and of gold-fields, can support the same industry as cheap coal; for that one export commands the trade of the world. Nor is it mere abundance of fuel that gives this commercial power, but the cheapness of it; for although common and plentiful all over the world, only the cheapest coal is used. India, China, and America have each large supplies, but none can compete with New South Wales in cost of production; for the finest fuel can be shipped here at the lowest price. And there is no prospect of this supply failing, already this coal commands all the markets of the Pacific coasts, it supplies a large proportion of Eastern shipping; and this great source of wealth and power—the greatest any country could possess—is not confined to one spot. Leaving out of the question the immense inland coal-fields of New South Wales and Queensland—for these cannot be cheap from the cost of carriage until a very dense population is collected—there are several enormous fields, of no depth nor difficulty to mine, and close to water carriage. This last condition is the principal consideration in the cost of any bulky article; production can only be valued when it reaches market, and when carriage is long it is only cheap by water; no railways or roads can open up large exports of coal. Hence only the coal-fields near navigable water are of any value in a new country, or in any country for export; and the Australian fields at

several points of the coast of New South Wales and Queensland are among the most valuable in the world. They are unfortunately remote to much commerce; but still Australian coal must be cheaper in any Eastern port than Welsh; only the immense produce of Asia requiring so much shipping, and this having frequently no outward cargo, coal is carried to the East at disproportionably low rates. This course of trade, however, will not long balance the steadily rising price of English fuel. Mines will become yearly more expensive to work, and prices of coal must rise—it is generally admitted they cannot fall, so the promise of a rise may be allowed. There is no reason, however, for the price of Australian coal rising very much, and a price of ten shillings per ton must divert much of this Eastern demand to Australia.

But the export will not so benefit a country as the use of its coal. It is the only foundation of the manufactures of Britain. Belgium and France can only compete with her upon their coal-fields; and now, as her fuel is becoming dearer, they are underselling her in some of their manufactures. And besides cheap fuel, many Australian coal-fields are very near, and some actually coincident with, iron-fields. These must be opened permanently very soon, and without protection they should establish manufacturing industry in New South Wales. They will first manufacture all the wool which they require of their stock; they will next make all their machinery; then be led into ship-building, and there is no reason why they should not supply in time the shipping of these seas. Already each of these industries has an existence, but the iron-mines are not open which should feed them; the metal is still imported;

and until this supply is found within the country manufacture will not be sure. But the mines are there to open, the coal is ready, and we may very soon expect the exports of manufactures to Australia to decline, unless a rapidly increasing population and wealth find new wants. We may expect articles of costly carriage, such as machinery and castings, to be first excluded, and in time most of the articles of largest import to be shut out of colonial markets, only the less common and more difficult British manufactures retaining their Australian trade.

But such industries as these—the production of wool, grain, and manufactures—will not be common to all the country. Gold may come from temperate or tropical climates, and most of the metals; but neither can the two great staples of to-day, and probably of the future, nor the impending next stage of industry, be successful under a tropical climate. Wheat has found its most northern range in Darling Downs, and it is the only bread and the second export of Australia; wool has found its limit about the 22d parallel, and it is the mainstay of the present colonies; and this line is also a tolerable division between the temperate and tropical climates for settlement as for produce. The line is not extremely marked, except by the cost of producing staples, but some divisions must be made; for, however healthy all this dry country is to man as to beast, and however the climate may tend to become alike—as the tempering varied seas are left for the arid monotonous interior—there is a limit beyond which the labour of Europeans will become greatly less productive than southward. All north of this line is politically yet portions of southern colonies. but the interests of the two

regions are as distinct as their climates. Queensland has already found some conflict between the interests of sugar and those of wheat. For the two climates lead to different products, a different people to withstand that clime and grow that produce, with another system of immigration, other customs, ideas, and aims, requiring quite another system of settlement and management.

In the south we have only to publish the facts of the climate, the business of the people and their success, to attract the labour required. Labour and capital come from our own land, and import our own ideas only, with more freedom of expression. They develop the land in familiar methods, and enjoy a better climate than they left. The field is open to all, requires no difference in its institutions from those of former homes, and gives more scope to democratic tendencies. All temperate climates have been found to give a comparatively equal distribution of wealth, for all the races must work or save to live; nature is not so profuse as to encourage idleness nor improvidence; hence all have a comparatively equal interest in the state; obtain, as they rise in wealth, more intelligence, more power and interest in their public questions; and become more democratic. There is no room for despotism or slavery after war has ceased to be their business. And more particularly in modern colonies is this law of democratic tendency observed; native to old countries, like many importations it thrives better in its new homes. These democratic ideas are thoroughly implanted in the southern temperate settlements; they cannot be thrown out of the popular view of any question, and future education can only control—will not remove—them. These will

not permit the immigration of foreign races that they do not know; for ignorance is always afraid, and if this foreign, immigration can undersell their one commodity—labour—they will not permit it to enter the country. Sugar or cotton may require cheap labour, but rather than this they would protect the production until there was a famine. Protection is the only way an under-educated people know to develop industry. Neither New South Wales nor Victoria could entertain the proposition of cheaper labour to grow sugar if it were possible, as it might be in a small northern portion of the former; but they both protect sugar, and the latter so much so, that beet is beginning to be cultivated. But Queensland has a limited electorate, their numbers have not grown so that the popular party can extend this franchise lower, and their political ends are not so much cut down by democracy; they have managed to import cheaper labour for their planters.

In Northern Australia, however, another system will eventually prevail; climate will compel it. All tropical lands have created a quite different state of society from the temperate regions, particularly when wars ceased to keep down the ever-increasing population. A profuse climate has always made food abundant, life over-abundant, and labour cheap; it has made that labour less capable as it increases, and, as food increases and is cheap, labour multiplies and becomes cheaper. Where wars cease to check this increase, only famines can. And when this state of affairs continues, the lower classes of society continue to be kept down by their numbers; they have no power to rise above their condition, for they are as individually weak as they are numerically strong—hence an

aristocratic state, with a very few rich and the whole people individually of the poorest, living upon the least food of any human creatures. The same climate in which these conditions arise are those in which such produce as sugar is grown. Canes and beet can be grown in many temperate climates, but temperate lands have never as cheap labour, for never as cheap food, as tropical lands; hence tropical climates produce sugar more cheaply than any other. All the conditions must be observed. Climate is only the first, cheap labour is as indispensable—that is, to compete for the public markets of the world—for by protection England or Greenland could grow sugar. It is not likely, therefore, that any sugar of the southern colonies will meet that of Queensland in a fair market; and that she has recognised the cost of obtaining this market, and paid it by importing colonial labour, as Mauritius and the West Indies have done, is only through her franchise being somewhat higher than in the south.

But north of the 22d parallel there is no climate for any of these temperate products; neither climate nor occupation for European labour. There is no hope of growing breadstuffs for their food, wool, wine, nor anything with which they are familiar. To grow cotton, sugar, or coffee, they must undertake what they do not understand, in a climate inimical to them, and compete with the cheapest labour in its own particular fields. South there is room for them; whether sugar or cotton is grown, wool will always be the staple; but there is no wool country profitable north of this limit. Sheep have been tried, and disappeared from the Burdekin and Carpentaria country in five years; all but a few hopeless flocks. Sugar, besides cat-

tle, is the only known use of the land; and other tropical produce will possibly follow if any succeed. Mines there are, and some remarkably rich; they will always employ some European labour, but this must be much better paid; the mines must continue to be much richer than in the southern temperate climates; and even this industry will be more productive if assisted by tropical labour. But mines and cattle will not make a tropical settlement without labour, while sugar alone can make, as it has done, the richest of colonies; and this depends upon cheap labour being introduced.

The northern territory of the colony of South Australia, where the telegraph cable lands, including probably all coasts north of the 22d parallel, is similarly situated. They will support large herds of cattle and horses; but their richest resources are in the well-watered coast lands, the valleys and volcanic plains subject to the north-west monsoons, where only labour is required to make rich settlements. That labour is close at hand, in the populations of the adjacent archipelago and its Chinese immigrants. Capital will be European or Australian, and the management will likewise be of our own people; but the production will depend upon foreigners. They will be of alien Asiatic races, beyond the reach of our ideas, beyond the influence of our civilisation, as they have practically been; servants to hire, import, pay, and send home again. It is the best fate that could befall them, and the only hope of tropical settlement. It seems the probable destiny of this region, but democratic legislation can thwart it. It implies a state of society quite new to Australian experience; a state of a few masters and many servants; European

capital and Asiatic labour; the wealth, power, and government in the hands of a very few. There is no room here for a middle class between capital and labour. To attempt the establishment of small freeholders to cultivate sugar, or any tropical produce, would be attempt to form a class similar to Indian ryots, who would soon become the thralls of the mill-owners or large planters, as miserable as their Asiatic prototypes; and the climate would directly defeat the attempt by discouraging a race unsuited to it.

The severance of these northern provinces from the temperate regions of the present settlements will in all likelihood be the only separations henceforth in these colonies. To carry out tropical settlement, new men and ideas will have to supersede the democratic customs prevalent. But to divide existing colonies, or redistribute the lands, would entail more trouble than advantage. Commerce manages with only three capitals, and public business has required a fourth to be made in Queensland, from the distance of most of its territory. But steam and telegraph make remoteness of much less consequence than formerly; and natural conditions will henceforth be the chief distinctions in politics, as in commerce, produce, and people. Rather than separations, we may look forward to a confederation of all the settlements. To accomplish this, necessity must first compel more union in aims among the colonies, and generally wider political views; while the complete independence and full powers each possesses will be a great hindrance to unanimity. Had they never been made quite independent, but always been under one political capital, it might have been better for them; and to attain a union it is possible each will have to concede

some of its powers to one confederate council. Whenever such a council or senate is formed, its powers will have to be most clearly defined. General questions must be clearly distinguished from local, and the taxation contingent upon each. The difference of aims between North and South will recur here in a modified form; the antagonism between an aristocratic and a democratic state of society will tend to express itself; and it will have to be settled if the confederation have any authority over the immigration each colony may invite, or power to dictate the nature of that immigration; for northern importations of cheap coloured labour will be much against the wishes of southern democracy.

When this confederation or dominion is formed it will be under a viceregal head. These colonies are, if anything, more loyal than the seat of empire; not less loyal and averse to republicanism than Canada. For what could they learn otherwise from the history of the last few years? In all countries great changes have taken place, and to advance changes must take place; the more progress the greater change, whether we call them revolutions if noisy, or reforms if orderly. And in all these recent changes the most successful and orderly have been achieved by limited monarchies. Italy has been welded into one kingdom, parliamentary government established, the Church stripped of its temporal power in the strongest position any Church can hold, and not even the Neapolitans have rebelled; and England has passed through more revolutions in the last five years than would have upset any republic—both to the end of a more widened liberty. Only a limited monarchy seems capable of quiet reforms;

and reforms are necessary in any state if it moves on. A republic means uncertainty in France and anarchy in Spain; it has never succeeded in the Americas in keeping any order, except in the one great State. And even the United States could not effect a settlement of their questions of slavery and taxation—questions of less moment than England and Italy have both recently settled without any disturbance—but by the most destructive civil war on record—to the end of a departure from pure democracy towards a centralised despotism.

There can be no reduction of the influence of the lower class in the management of present settlements. The franchise once granted, like a gift of the gods, cannot be taken back; it must remain in their hands, however unworthy. It is not by raising the franchise that government can acquire a higher tone, but by raising the elector; by educating him to his position. Until recently Education has not received the thorough attention it should have; for the disparity between the power and the ability of the people was not so striking, and only of late years have the material advantages of Education, as a producing and enriching power, been appreciated; while there are neglected numbers of the rising generation growing up in some parts of the scattered agricultural lands, and forcing the question of schoolmasters now or police henceforth. The option has been accepted, in all colonies, of the schoolmaster. Education is considered a duty of the State, and if there are any too poor to educate their children, the State generally recognises the responsibility. Free and compulsory education is now the accepted theory of at least two colonies, and will very soon

be the law of the land. While as the State undertakes the duty, it rapidly falls from the hands of the churches; the latter still maintain their desire to do all they can for youth. Thus we may expect the next generation to be much more intelligent, less impulsive and narrow-minded, more industrious and liberal towards other communities, than the rash ruling powers of to-day.

But the indifference of the better class is the most severe drawback to the good guidance of the country. They might check much of the popular error if they would use their power, although it is limited. They, however, stand apart from politics with a very few exceptions, and only interfere as a matter of business, to save property or redress a wrong, letting one after another popular measure drive them farther from power. They may resume their natural position if education will raise those under till they become nearer them, when the disparity of ideas, and more particularly of feelings, is not so repellent, but some trust and mutual interest acknowledged. But this will never give the vigour in politics that may be looked for in most kindred settlements; indeed, time promises to diminish all their vigour. In religions, as in politics, there is great indifference; we never find any religious excitement nor energy displayed in these colonies; yet such are about the most striking mental growths in all American settlements, where they are recruited, too, not so much from native as from European races. New religions are unknown to Australia; and the ordinary interest felt in religious questions at home is one of the very few things that do not acclimatise well. There is less religion exhibited, but the people are certainly not worse; they are

quieter generally; they are less vigorous in politics, religion, and public matters than in Britain and America, and cannot plead that they are more enticed away by material pursuits than Americans.

This lack of vigour has long been considered within the colonies as a characteristic of New South Wales. This colony has for long obtained in commerce the name of being less enterprising and vigorous than the others; and there seems to be some truth in the charge. Many political questions, for instance, are common to several colonies, and are more earnestly discussed in some than in others, such as that of protection. Now this received far more attention, and created much more excitement, in Victoria than in New South Wales, protection not being established altogether in principle in the latter. This result was not from the superior intelligence of the people, for they are exactly the same constituency as in Victoria, but from their general indifference, allowing the importers and the press fortunately to control them. But the inferior energy of a people is of course much more marked in their great field of action, which, after they are clear of wars, is commerce, and here we can compare new States more easily. Take exploration and occupation of territory, New South Wales has done less than any colony. Since the days of the old surveyors sent from home to examine the country, there has been no exploration done by this community; for Leichardt may be said to have explored himself; he was a man who did it with the smallest equipment, and more assisted by friends than by the public. Queensland has been settled by British immigrants, the interior explored by Victoria, with South and West Australia, and settled as far

as possible by Adelaide. Railway extension, again, is slower in New South Wales, considering her wealth and resources, than in any; she long ago let Victoria tap her Riverine trade without any effort to hold it, and has not now any railways reaching farther inland than the youngest colony Queensland has made. Her telegraphs do not reach the head of her inland navigation within 500 miles of the capital. In squatting she follows both Victoria and Queensland in new systems, such as fencing or the preparation of wool, and has done less than any towards meat-preserving; yet she is by far the largest stockowner. In agriculture she is hardly an exporter at all, yet she has spent upon this land more labour and capital than any other colony. In manufacture she has done nothing compared to Victoria; her woollen factories and their produce have not increased in any rapid ratio, and have been established before Victoria was a colony; and with the immense advantages of most accessible coal and iron, she still imports all the latter, and is only now really thinking of manufacture.

Why the oldest settlement should already display any deviation from the common character all imported from their common home, can only be accounted for by climate. All still continue to receive immigration, but yet the oldest settlement has most native-born population. New South Wales has not only most, but many of these are of the second and third generation, and, proportionably to her total population, greatly the most of any colony. New South Wales has 58 per cent of her total population native-born, and deducting the children under 13 years as having no influence in the action of the community,

there remains 20 per cent of the whole population, or fully 30 per cent of the people over 13 years of age, of native birth. Victoria has 48 per cent of her people native-born, but if all the children are deducted not one per cent are natives; for she has an excessive proportion of children, and comparatively few of these children immigrated. There is, therefore, no influence of climate yet at work in Victoria to affect the majority, but one-third of New South Wales are native-born, some of many generations; and if there is less vigour of action in this settlement, it may be traced to a less-vigorous climate than produced their neighbours. Queensland has just been settled by immigrants. But the same climate that affected the descendants of the settlers of New South Wales will affect still more those of Queensland and less so those of Victoria. The eastern and northern coasts are less subject to the bracing Antarctic breezes that often alternate with hot winds in Victoria, and give so much vigour that Australian invalids do not like Victoria so much as the mild eternal summer of the other coasts, bathed by tropical sea-currents, under a warm temperate sky. But the difference is slight; the present marked divergence of character is between British and Australian races, not between New South Welsh and Victorian.

The same changes occur whenever people change their climate. If a country is too rich, they may become lazy, and often do; the richest people have generally sprung upon poor countries. But if a climate is too fine, they are sure to become lazy and indifferent. That the Australian climate is healthy is the cause of settlement being so successful, and is the greatest attraction of the country; but

it may lure the invader to his own ruin, as has happened elsewhere; it may reduce him gradually to weakness, as it strips him of physical vigour, mental activity, enterprise, and ambition. The Spaniard who invaded the New World was a most active, energetic, enterprising man; he overcame every climate or sea he encountered, but his descendants are the most useless of races; from one generation to another, Mexico and Cuba have fallen into indolence and impotence. From the first, California overcame its occupiers by its charming climate, and led them to become the most indifferent of recluses, rather than settlers of a new country; and now that Americans have taken it without assistance from their hands, they will in time succumb to climate, if left alone, without reinforcement from more bracing lands. The native of the Atlantic or Mississippi States leaves a winter whose rigour takes the thermometer far below zero, and teaches forethought of a long winter, for a mild eternal summer; he says no man could return to the Eastern States having once lived on the Pacific slopes; the charm is too overpowering. But the country will not prosper, nor its people advance, without industry; and if this lacks life, the only remedy is a constant stream of immigration from a more vigorous clime. If California is not steadily supplied by immigration from the Eastern States, her energies will assuredly decline. And if Australia is not reinforced as she grows by a steady and increasing European immigration, she cannot hope ever to become a first-class State.

The contrast is not unnoticed between the centres of Australian growth and European immigration. Sydney is strongly contrasted to Melbourne in many ways. We

have in the Victorian capital a most energetic people. They are eager in commerce, enterprising in industry, ardent in politics, and jealous of position. They open up trade with distant ports, and are the first to find new markets; they send out explorations and settlements, and would undertake the government of the Fijis if allowed; they try every possible and many impossible industries, and encourage all to the best of their intelligence; they are lavish to science, and the first to discuss any new idea. More active in commerce, Melbourne has all her capital afloat; more active in politics, she has always the most advanced laws in her democratic way; more active in ambition as a State, she omits no opportunity of leading an Australian movement, in science, commerce, or policy; and declares her determination to be the capital of the group of settlements.

Sydney is of a milder mood. She lies upon the most beautiful of bays in a too beautiful climate, and has learnt that climate too well to dread winter or want. Her people listen to the temptations of commerce, but pause; they discuss politics, but do not decide; they like science, but let amateurs explore and observe; they hear of New Guinea and Fiji, but do not wish to undertake their charge. They are content to let rash speculators try new industries, and their large capital can be borrowed by government at the lowest of interest; they are willing to let other colonies try land systems or trade laws, make railways or telegraphs, and all they lose in progress they gain in comfort; they are pleased with their own progress and happiness, and do not care how eager and ambitious their neighbours are. No land so wide and rich, no mines

so inexhaustible, no future more promising, Sydney rests in a most exquisite scene in a most charming climate, beautiful, indifferent, confident. Let others strive and succeed, or pause and perish, her good fortune is assured; she knows no care of the morrow, no haste for destiny, and will at least by birth and beauty ever reign queen of the southern seas.

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